ALIGARH SMART CITY LIMITED

Specific Procurement Notice – Request for Bids (RFB)

DESIGN, CONSTRUCTION OF RAIN WATER HARVESTING & GROUND WATER RECHARGE INCLUDING 5 YEARS OF OPERATIONS AND MAINTENANCE (UNDER SMART CITY MISSION)

Standard Procurement Document

PART 1 – Bidding Procedures

Section I - Instructions to Bidders

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Section I - Instructions to Bidders

A. General	
1. Scope of Bid	1.1 In connection with the Specific Procurement Notice – Request for Bids (RFB), specified in the **Bid Data Sheet (BDS)**, the Employer, as **specified in the BDS**, issues this bidding document for the provision of Works as specified in Section VII, Works' Requirements. The name, identification, of this RFB are **specified in the BDS.**
	1.2 Throughout this bidding document: (a) the term "in writing" means communicated in written form (e.g. by mail, e-mail, fax, including if **specified in the BDS**, distributed or received through electronic-procurement system used by the Employer) with proof of receipt; (b) if the context so requires, "singular" means "plural' and vice versa; and (c) "Day" means calendar day, unless otherwise specified as a "Business Day." A Business Day is any day that is a working day of the Employer. It excludes the Employer's official public holidays.
2. Source of Funds	2.1 Source of Fund is from Smart City Mission funds (Government of India and Government of Uttar Pradesh)
3. Fraud and Corruption	3.1 The Employer requires compliance with the Employer's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the GOI's Sanctions Framework, as set forth in Section VI. 3.2 In further pursuance of this policy, Bidders shall permit and shall cause their agents (where declared or not), subcontractors, sub-consultants, service providers, suppliers, and their personnel, to permit the Employer to inspect all accounts, records and other documents relating to any initial selection process, prequalification process, bid submission, proposal submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Employer.
4. Eligible Bidders	4.1 A Bidder may be a firm that is a private entity, or a state-owned enterprise or institution —subject to ITB 4.6—or any combination of them in the form of a joint venture (JV), under an existing agreement, or with the intent to

		enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Bidding process and, in the event the JV is awarded the Contract, during contract execution. Unless **specified in the BDS**, there is no limit on the number of members in a JV.
	4.2	A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this Bidding process, if the Bidder: (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or (b) receives or has received any direct or indirect subsidy from another Bidder; or (c) has the same legal representative as another Bidder; or (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the Bid of another Bidder, or influence the decisions of the Employer regarding this Bidding process; or (e) or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the Bid; or (f) or any of its affiliates has been hired (or is proposed to be hired) by the Employer as Project Manager for the Contract implementation; (g) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project **specified in the BDS** 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or (h) has a close business or family relationship with a professional staff of the Employer (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved

		in the preparation of the bidding document or specifications of the contract, and/or the Bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Employer throughout the procurement process and execution of the contract.
	4.3	A firm that is a Bidder (either individually or as a JV member) shall not participate in more than one Bid, except for permitted alternative Bids. This includes participation as a subcontractor in other Bids. Such participation shall result in the disqualification of all Bids in which the firm is involved. A firm that is not a Bidder or a JV member may participate as a subcontractor in more than one Bid.
	4.4	A Bidder may have the nationality of any country, subject to the restrictions pursuant to Section V. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or sub-consultants for any part of the Contract including related Services.
	4.5	Bidders that are state-owned enterprises or institutions in the Employer's Country may be eligible to compete and be awarded a Contract(s) only if they can establish, in a manner acceptable to the Employer, that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not under supervision of the Employer unless approved by Employer.
	4.6	A Bidder shall provide such documentary evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.
5. Eligible Materials, Equipment and Services	5.1	The materials, equipment and services to be supplied under the Contract may have their origin in any country subject to the restrictions specified in Section VI, Eligible Countries, and all expenditures under the Contract will not contravene such restrictions. At the Employer's request, Bidders may be required to provide evidence of the origin of materials, equipment and services.

B. Contents of Bidding Document

6. Sections of Bidding Document	6.1	The bidding document consist of Parts 1, 2, and 3, which include all the sections specified below, and which should be read in conjunction with any Addenda issued in accordance with ITB 8. **PART 1 Bidding Procedures** • Section I - Instructions to Bidders (ITB) • Section II - Bid Data Sheet (BDS) • Section III - Evaluation and Qualification Criteria • Section IV - Bidding Forms • Section V - Eligible Countries • Section VI - Fraud and Corruption **PART 2 Works' Requirements** • Section VII – Works' Requirements **PART 3 Conditions of Contract and Contract Forms** • Section VIII - General Conditions of Contract • Section IX - Particular Conditions of Contract • Section X - Contract Forms
	6.2	Unless obtained directly from the Employer, the Employer is not responsible for the completeness of the bidding document, responses to requests for clarification, the minutes of the pre-Bid meeting (if any), or Addenda to the bidding document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Employer shall prevail.
	6.3	The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding document and to furnish with its Bid all information and documentation as is required by the bidding document.
7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting	7.1	A Bidder requiring any clarification of the bidding document shall contact the *Employer* in writing at the *Employer*'s address **specified in the BDS** or raise its inquiries during the pre-Bid meeting if provided for in accordance with ITB 7.4. The *Employer* will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of Bids within a period **specified in the BDS**. The *Employer* may forward copies of its response to all Bidders who have acquired the bidding document in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so **specified in the BDS**, the Employer shall also promptly publish its response at the web page **identified in the BDS**. Should the clarification

		result in changes to the essential elements of the bidding document, the Employer shall amend the bidding document following the procedure under ITB 8 and ITB 22.2.
	7.2	The Bidder is advised to visit and examine the Site of works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.
	7.3	The Bidder and any of its personnel or agents will be granted permission by the *Employer* to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the *Employer* and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
	7.4	If so **specified in the BDS**, the Bidder's authorised representative is invited to attend a pre-Bid meeting and/or a Site of works visit. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
	7.5	The Bidder is requested, to submit any questions in writing, to reach the *Employer* not later than one week before the pre-Bid meeting.
	7.6	Minutes of the pre-Bid meeting, if applicable, including the text of the questions asked by Bidders, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Bidders who have acquired the bidding document in accordance with ITB 6.3. If so **specified in the BDS,** the Employer shall also promptly publish the Minutes of the pre-Bid meeting at the web page **identified in the BDS**. Any modification to the bidding document that may become necessary as a result of the pre-Bid meeting shall be made by the *Employer* exclusively through the issue of an addendum pursuant to ITB 8 and not through the minutes of the pre-Bid meeting. Nonattendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder.
8. Amendment of Bidding Document	8.1	At any time prior to the deadline for submission of Bids, the *Employer* may amend the bidding document by issuing addenda.

	8.2 Any addendum issued shall be part of the bidding document and shall be communicated in writing to all who have obtained the bidding document from the Employer in accordance with ITB 6.3. The Employer shall also promptly publish the addendum on the Employer's web page in accordance with ITB 7.1.
	8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Employer may, at its discretion, extend the deadline for the submission of Bids, pursuant to ITB 22.2.
C. Preparation of Bids	
9. Cost of Bidding	9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the *Employer* shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.
10. Language of Bid	10.1 The Bid, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the *Employer,* shall be written in the language **specified in the BDS**. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language **specified in the BDS**, in which case, for purposes of interpretation of the Bid, such translation shall govern.
11. Documents Comprising the Bid	11.1 The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously in two separate sealed envelopes (two-envelope Bidding process). One envelope shall contain only information relating to the Technical Part and the other, only information relating to the Financial Part. These two envelopes shall be enclosed in a separate sealed outer envelope marked "ORIGINAL BID". 11.2 The **Technical Part** shall contain the following: (a) **Letter of Bid – Technical Part,** prepared in accordance with ITB 12; (b) **Bid Security**, in accordance with ITB 19.1; (c) **Authorization**: written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.3; (d) **Bidder's Eligibility:** documentary evidence in

	accordance with ITB 17.1 establishing the Bidder's eligibility to Bid; (e) **Qualifications:** documentary evidence in accordance with ITB 17.2 establishing the Bidder's qualifications to perform the Contract if its Bid is accepted; (f) **Conformity**: a technical proposal in accordance with ITB 16; (g) any other document **required in the BDS**. 11.3 The **Financial Part** shall contain the following: (a) **Letter of Bid – Financial Part:** prepared in accordance with ITB 12 and ITB 14; (b) any other document required **in the BDS.** 11.4 The Technical Part shall not include any information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part the Bid shall be declared non-responsive and rejected. 11.5 In addition to the requirements under ITB 11.2, Bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all members and submitted with the Bid, together with a copy of the proposed Agreement. 11.6 The Bidder shall furnish in the Letter of Bid – Financial Part information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.
12. Letters of Bid and Schedules	12.1 The Letter of Bid – Technical Part, Letter of Bid – Financial Part shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.3. All blank spaces shall be filled in with the information requested.
13. Alternative Bids	13.1 Unless otherwise **specified in the BDS**, alternative Bids shall not be considered.
	13.2 When alternative times for completion are explicitly invited, a statement to that effect will be **included in the BDS**, and the method of evaluating different alternative

		times for completion will be described in Section III, Evaluation and Qualification Criteria.
	13.3	Except as provided under ITB 13.4 below, Bidders wishing to offer technical alternatives to the requirements of the bidding document must first price the Employer's design as described in the bidding document and shall further provide all information necessary for a complete evaluation of the alternative by the Employer, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the Bidder with the Most Advantageous Bid conforming to the basic technical requirements shall be considered by the Employer.
	13.4	When **specified in the BDS**, Bidders are permitted to submit alternative technical solutions for specified parts of the Works. Such parts will be **identified in the BDS** and described in Section *VII, Works'* Requirements. The method for their evaluation will be stipulated in Section *III*, Evaluation and Qualification Criteria.
14. Bid Prices and Discounts	14.1	The prices and discounts quoted by the Bidder in the Letter of Bid – Financial Part and in the Priced Activity Schedule or Bill of Quantities shall conform to the requirements specified below.
	14.2	The Bidder shall submit a Bid for the whole of the Works described in ITB 1.1 by filling in prices for all items of the Works, as identified in Section IV, Bidding Forms. In case of admeasurement contracts, the Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed covered by the rates for other items and prices in the Bill of Quantities.
	14.3	The price to be quoted in the Letter of Bid – Financial Part, in accordance with ITB 12.1, shall be the total price of the Bid, excluding any discounts offered.
	14.4	The Bidder shall quote any discounts and indicate the methodology for their application in the Letter of Bid - Financial Part, in accordance with ITB 12.1.
	14.5	Unless otherwise **provided in the BDS,** and the Conditions of Contract, the prices quoted by the Bidder shall be fixed. If the prices quoted by the Bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract, the Bidder shall furnish the indices and

	weightages for the price adjustment formulae in the Schedule of Adjustment Data in Section IV- Bidding Forms and the Employer may require the Bidder to justify its proposed indices and weightings. 14.6 If so specified in ITB 1.1, Bids are invited for individual contracts. Bidders wishing to offer discounts for the award of more than one Contract shall specify in their Bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITB 14.4, provided the Bids for all contracts are opened at the same time.
	14.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of Bids, shall be included in the rates and prices and the total Bid price submitted by the Bidder.
15. Currencies of Bid and Payment	15.1 The currency(ies) of the Bid and the currency(ies) of payments shall be the same and shall be as **specified in the BDS.**
	15.2 Bidders may be required by the Employer to justify, to the Employer's satisfaction, their local and foreign currency requirements, and to substantiate that the amounts included in the unit rates and prices and shown in the Schedule of Adjustment Data are reasonable, in which case a detailed breakdown of the foreign currency requirements shall be provided by Bidders.
16. Documents Comprising the Technical Proposal	16.1 The Bidder shall furnish a technical proposal in the Technical Part of the Bid including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section *IV*, Bidding Forms, in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work's requirements and the completion time.
17. Documents Establishing the Eligibility and Qualifications of the Bidder	17.1 To establish Bidder's eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid, – Technical Part, included in Section IV, Bidding Forms. 17.2 In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract, the Bidder shall provide the information requested in the corresponding information sheets included in Section *IV*, Bidding Forms.
	17.3 If a margin of preference applies as specified in accordance with ITB 38.1, domestic Bidders, individually

	or in joint ventures, applying for eligibility for domestic preference shall supply all information required to satisfy the criteria for eligibility specified in accordance with ITB 38.1.
18. Period of Validity of Bids	18.1 Bids shall remain valid for the Bid Validity period **specified in the BDS**. The Bid Validity period starts from the date fixed for the Bid submission deadline (as prescribed by the Employer in accordance with ITB 22.1). A Bid valid for a shorter period shall be rejected by the Employer as nonresponsive.
	18.2 In exceptional circumstances, prior to the expiration of the Bid validity period, the Employer may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB 19, it shall also be extended for twenty-eight (28) days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its Bid, except as provided in ITB 18.3.
	18.3 If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial Bid validity period, the Contract price shall be determined as follows: (a) in the case of fixed price contracts, the Contract price shall be the Bid price adjusted by the factor **specified in the BDS;**
	(b) in the case of adjustable price contracts, no adjustment shall be made; or
	(c) in any case, Bid evaluation shall be based on the Bid price without taking into consideration the applicable correction from those indicated above.
19. Bid Security	19.1 The Bidder shall furnish as part of its Technical Part of its Bid, either a Bid-Securing Declaration or a Bid Security as **specified in the BDS**, in original form and, in the case of a Bid security, in the amount and currency **specified in the BDS**.
	19.2 A Bid-Securing Declaration shall use the form included in Section IV, Bidding Forms.
	19.3 *If a Bid Security is specified pursuant to ITB 19.1*, the Bid Security shall be a demand guarantee, and in any of the following forms at the Bidder's option: (a) Transfer through NEFT/ RTGS/ Over the counter

	payment or any other format as prescribed in the website of the Employer (b) another security **specified in the BDS,**
	19.4 If a Bid Security or Bid-Securing Declaration is specified pursuant to ITB 19.1, any Bid not accompanied by a substantially responsive Bid Security or Bid-Securing Declaration shall be rejected by the Employer as non-responsive.
	19.5 If a Bid Security is specified pursuant to ITB 19.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the Contract and furnishing the Performance Security.
	19.6 The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required Performance Security and.
	19.7 The Bid Security may be forfeited or the Bid-Securing Declaration executed: (a) if a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the Letter of Bid – Technical Part and repeated in the Letter of Bid – Financial Part or any extension thereto provided by the Bidder; or (b) if the successful Bidder fails to: (i) sign the Contract in accordance with ITB 49; or (ii) furnish a Performance Security.
	19.8 The Bid Security or the Bid-Securing Declaration of a *JV* shall be in the name of the *JV* that submits the Bid. If the *JV* has not been constituted into a legally enforceable *JV*, at the time of Bidding, the Bid Security or the Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent mentioned in ITB 4.1 and ITB 11.5.
	19.9 If a Bid Security is **not required in the BDS**, pursuant to ITB 19.1, and: (a) if a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder in the Letters of Bid; or (b) if the successful Bidder fails to: sign the Contract in

	accordance with ITB 49; or furnish a Performance Security; the Employer may, if provided for **in the BDS**, declare the Bidder ineligible to be awarded a contract by the Employer for a period of time as **stated in the BDS**.
20. Format and Signing of Bid	20.1 The Bidder shall prepare the Bid, in accordance with the Instructions, ITB 11 and ITB 21. 20.2 Bidders shall mark as "CONFIDENTIAL" information in their Bids which is confidential to their business. This may include proprietary information, trade secrets or commercial or financially sensitive information.
	20.3 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as **specified in the BDS** and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid where entries or amendments have been made shall be signed or initialled by the person signing the Bid.
	20.4 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives. 20.5 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialled by the person signing the Bid.
D. Submission of Bids	
21. Sealing and Marking of Bids	21.1 The Bidder shall submit the bids through e-portal. All the documents required for Technical qualification shall be submitted as per ITB and formats as per Section IV of the RFB documents. Bidder shall submit all the required documents and submit as per the standard procurement procedures of the E-portal *https://etender.up.nic.in* and *https://www.nnaligarh.com* and *www.smartcityaligarh.com* 21.2 Financial Part shall be uploaded in the given format in web portal only.
	21.3 In addition, the Bidder shall submit hard copy of the Bid in the number **if specified in the BDS**. All the required

		documents shall be uploaded in the e-portal and Employer shall not have any liability towards the failure in uploading of the documents by the Bidder.
	21.4	The envelopes marked "ORIGINAL BID" and "BID COPIES" shall be enclosed in a separate sealed outer envelope for submission to the Employer **if required as BDS.**
	21.5	All inner and outer envelopes, shall:
		(a) bear the name and address of the Bidder; (b) be addressed to the Employer in accordance with ITB 22.1; (c) bear the specific identification of this Bidding process indicated in ITB 1.1; and (d) bear a warning not to open before the time and date for Bid opening.
	21.6	If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the Bid.
22. Deadline for Submission of Bids	22.1	Bids must be received by the *Employer* at the address and no later than the date and time **specified in the BDS**. **When so specified in the BDS**, Bidders shall have the option of submitting their Bids electronically. Bidders submitting Bids electronically shall follow the electronic Bid submission procedures **specified in the BDS.**
	22.2	The *Employer* may, at its discretion, extend the deadline for the submission of Bids by amending the bidding document in accordance with ITB 8, in which case all rights and obligations of the *Employer* and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
23. Late Bids	23.1	The *Employer* shall not consider any Bid that arrives after the deadline for submission of Bids, in accordance with ITB 22. Any Bid received by the *Employer* after the deadline for submission of Bids shall be declared late, rejected, and returned unopened to the Bidder.
24. Withdrawal, Substitution, and Modification of Bids	24.1	A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB 20.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Bid must accompany the respective written notice. All notices must

	be: (a) prepared and submitted in accordance with ITB 20 and ITB 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," "MODIFICATION;" and (b) received by the Employer prior to the deadline prescribed for submission of Bids, in accordance with ITB 22.
	24.2 Bids requested to be withdrawn in accordance with ITB 24.1 shall be returned unopened to the Bidders.
	24.3 No Bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of Bids and the expiration of the period of Bid validity specified by the Bidder on the Letter of Bid or any extension thereof.
E. Public Opening of Technical Parts of Bids	
25. Public Opening of Technical Parts of Bids	25.1 Except in the cases specified in ITB 23 and ITB 24.2, the Employer shall publicly open and read out all Bids received by the deadline, at the date, time and place **specified in the BDS**, in the presence of Bidders` designated representatives and anyone who chooses to attend. All Bidders, or their representatives and any interested party may attend a public opening. Any specific electronic Bid opening procedures required if electronic bidding is permitted in accordance with ITB 22.1, shall be **as specified in the BDS**.
	25.2 First, the written notice of withdrawal in the envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding Bid shall not be opened, but returned to the Bidder. No Bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Bid opening. 25.3 Next, envelopes marked "Substitution" shall be opened and read out and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Bid opening.
	25.4 Next, envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Bid. No Bid

	modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening.
	25.5 Next, all other envelopes marked "TECHNICAL PART" shall be opened one at a time. On opening the envelopes marked "TECHNICAL PART" the Employer shall read out: the name of the Bidder, the presence or the absence of a Bid Security, or Bid-Securing Declaration, if required, and whether there is a modification; and Alternative Bid - Technical Part; and any other details as the Employer may consider appropriate. 25.6 Only Technical Parts of Bids and Alternative Bid - Technical Parts that are read out at Bid opening shall be considered further for evaluation. The Letter of Bid-Technical Part: FINANCIAL PROPOSAL" are to be initialed by representatives of the Employer attending Bid opening in the manner **specified in the BDS**.
	25.7 At the Bid opening the Employer shall neither discuss the merits of any Bid nor reject any Bid (except for late Bids, in accordance with ITB 23.1).
	25.8 The Employer shall prepare a record of the Technical Parts of Bid opening that shall include, as a minimum: (a) the name of the Bidder and whether there is a withdrawal, substitution, or modification; (b) the receipt of envelopes that there are no "FINANCIAL PART" submitted in the Hard Copy; (c) the presence or absence of a Bid Security or Bid-Securing Declaration, if one was required; and (d) if applicable, any Alternative Bid – Technical Part. 25.9 The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.
F. Evaluation of Bids – General Provisions	
26. Confidentiality	26.1 Information relating to the evaluation of Bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until information on Intention to Award the Contract is transmitted to all Bidders in

	accordance with ITB 44.
	26.2 Any effort by a Bidder to influence the Employer in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid.
	26.3 Notwithstanding ITB 26.2, from the time of Bid opening to the time of Contract award, if a Bidder wishes to contact the *Employer* on any matter related to the Bidding process, it shall do so in writing.
27. Clarification of Bids	27.1 To assist in the examination, evaluation, and comparison of the Bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its Bid given a reasonable time for a response. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids, in accordance with ITB 36.
	27.2 If a Bidder does not provide clarifications of its Bid by the date and time set in the *Employer*'s request for clarification, its Bid may be rejected.
28. Deviations, Reservations, and Omissions	28.1 During the evaluation of Bids, the following definitions apply: (a) "Deviation" is a departure from the requirements specified in the bidding document; (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the bidding document; and (c) "Omission" is the failure to submit part or all of the information or documentation required in the bidding document.
29. Nonmaterial Nonconformities	29.1 Provided that a Bid is substantially responsive, the Employer may waive any nonconformities in the Bid. 29.2 Provided that a Bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result

	in the rejection of its Bid.
	29.3 Provided that a Bid is substantially responsive pursuant to ITB 31, the *Employer* shall rectify quantifiable nonmaterial nonconformities related to the Bid price. To this effect, the Bid price may be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner **specified in the BDS**.
G. Evaluation of Technical Parts of Bids	
30. Evaluation of Technical Parts	30.1 In evaluating the Technical Parts of each Bid, the Employer shall use the criteria and methodologies listed in this ITB and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.
31. Determination of Responsiveness	31.1 The *Employer*'s determination of a Bid's responsiveness is to be based on the contents of the Bid itself, as defined in ITB 11. 31.2 A substantially responsive Bid is one that meets the requirements of the bidding document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that: (a) if accepted, would: (i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or (ii) limit in any substantial way, inconsistent with the bidding document, the Employer's rights or the Bidder's obligations under the proposed Contract; or (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.
	31.3 The Employer shall examine the technical aspects of the Bid submitted in accordance with ITB 16, in particular, to confirm that all requirements of Section VII, Works' Requirements have been met without any material deviation, reservation or omission.
	31.4 If a Bid is not substantially responsive to the requirements of the bidding document, it shall be rejected by the *Employer* and may not subsequently be made responsive by correction of the material deviation,

	reservation, or omission.
32. Qualification of the Bidder	32.1 The *Employer* shall determine to its satisfaction whether the eligible Bidders that have submitted substantially responsive Bid - Technical Parts meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
	32.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the bidding document), or any other firm different from the Bidder.
	32.3 If a Bidder does not meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria, its Bid shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
	32.4 Only Bids that are both substantially responsive to the bidding document, and meet all Qualification Criteria shall have their "FINANCIAL PART" submitted in e-portal opened at the second public opening.
33. Subcontractors	33.1 Unless otherwise stated **in the BDS**, the Employer does not intend to execute any specific elements of the Works by subcontractors selected in advance by the Employer. 33.2 The subcontractor's qualifications shall not be used by the Bidder to qualify for the Works unless their specialised parts of the Works were previously designated by the Employer **in the BDS** as can be met by subcontractors refered to hereafter as 'Specialized Subcontractors', in which case, the qualifications of the Specialized Subcontractors proposed by the Bidder may be added to the qualifications. 33.3 Bidders may propose subcontracting up to the percentage of total value of contracts or the volume of works as **specified in the BDS.** Subcontractors proposed by the Bidder shall be fully qualified for their parts of the Works.
H. Public Opening of Financial Parts of Bids	
34. Public Opening of Financial Parts	34.1 Following the completion of the evaluation of the Technical Parts of the Bids, and the Employer may notify in writing or upload the same in e-portal those Bidders whose Bids were considered non-responsive to the bidding

	document or failed to meet the Qualification Criteria, advising them of the following information:
	(a) the grounds on which their Technical Part of Bid failed to meet the requirements of the bidding document; (b) their "FINANCIAL PART" uploaded in web portal will be not be opened; and
	34.2 The Employer shall, simultaneously, notify in writing or upload in e-portal those Bidders whose Technical Part have been evaluated as substantially responsive to the bidding document and met all Qualifying Criteria, advising them of the following information: (a) their Bid has been evaluated as substantially responsive to the bidding document and met the Qualification Criteria; (b) their "FINANCIAL PART" uploaded in e-portal will be opened at the public opening of the Financial Parts; and (c) notify them of the date, time and location of the second public opening of the "FINANCIAL PART" **as specified in the BDS.**
	34.3 The opening date should allow Bidders sufficient time to make arrangements for attending the opening. The Financial Part of the Bid shall be opened publicly in the presence of Bidders' designated representatives and anyone who chooses to attend.
	34.4 At this public opening the Financial Parts will be opened by the Employer in the presence of Bidders, or their designated representatives and anyone else who chooses to attend. Bidders who met the Qualification Criteria and whose bids were evaluated as substantially responsive will have their "FINANCIAL PART" opened at the second public opening. The Employer shall read out the names of each Bidder, and the total Bid prices, per contract if applicable, and any other details as the Employer may consider appropriate.
	34.5 The Employer shall neither discuss the merits of any Bid nor reject " FINANCIAL PART".

	34.6 The Employer shall prepare a record of the Financial Part of the Bid opening that shall include, as a minimum: (a) the name of the Bidder whose Financial Part was opened; (b) the Bid price, per contract if applicable, including any discounts; and
	34.7 The Bidders whose "FINANCIAL PART" have been opened or their representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.
I. Evaluation of Financial Parts of Bids	
35. Evaluation of Financial Parts	35.1 To evaluate the Financial Part, the Employer shall consider the following:
	(a) the Bid price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities[1] for admeasurement contracts, but including Daywork[2] items, where priced competitively;
	(b) price adjustment for correction of arithmetic errors in accordance with ITB 36.1;
	(c) price adjustment due to discounts offered in accordance with ITB 14.4;
	(d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 37; (e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 29.3; and
	(f) the additional evaluation factors are specified in Section III, Evaluation and Qualification Criteria.

1 In lump-sum contracts, delete "Bill of Quantities" and replace with "Activity Schedule."

2 Daywork is work carried out following instructions of the Project Manager and paid for on the basis of time spent by workers, and the use of materials and the Contractor's equipment, at the rates quoted in the Bid. For Daywork to be priced competitively for Bid evaluation purposes, the Employer must list tentative quantities for individual items to be costed against Daywork (e.g., a specific number of tractor driver staff-days, or a specific tonnage of Portland cement), to be multiplied by the Bidders' quoted rates and included in the total Bid price.

	35.2	The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.
	35.3	If this bidding document allows Bidders to quote separate prices for different contracts, the methodology to determine the lowest evaluated cost of the contract combinations, including any discounts offered in the Letter of Bid – Financial Part, is specified in Section III, Evaluation and Qualification Criteria
36. Correction of Arithmetical Errors	36.1	In evaluating the Financial Part of each Bid, the Employer shall correct arithmetical errors on the following basis:
		(a) only for admeasurement contracts, if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected; (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
	36.2	Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 36.1, shall result in the rejection of the Bid.
37. Conversion to Single Currency	37.1	For evaluation and comparison purposes, the currency(ies) of the Bids shall be converted in a single currency as **specified in the BDS.**
38. Margin of Preference	38.1	Unless otherwise **specified in the BDS,** a margin of preference for domestic Bidders[3] shall not apply.

[3] An individual firm is considered a domestic bidder for purposes of the margin of preference if it is registered in the country of the Employer, has more than 50 percent ownership by nationals of the country of the Employer, and if it does not subcontract more than 10 percent of the contract price, excluding provisional sums, to foreign contractors. JVs are considered as domestic bidders and eligible for domestic preference only if the individual member firms are registered in the country of the Employer or have more

39. Comparison of Financial Parts	39.1 The Employer shall compare the evaluated costs of all responsive and qualified Bids to determine the Bid that has the lowest evaluated cost.
40. Abnormally Low Bids	40.1 An Abnormally Low Bid is one where the Bid price, in combination with other constituent elements of the Bid, appears unreasonably low to the extent that the Bid price raises material concerns as to the capability of the Bidder to perform the Contract for the offered Bid price.
	40.2 In the event of identification of a potentially Abnormally Low Bid, the Employer shall seek written clarifications from the Bidder, including detailed price analyses of its Bid price in correlation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the bidding document. 40.3 After evaluation of the price analyses, in the event that the Employer determines that the Bidder has failed to demonstrate its capability to deliver the contract for the offered tender price, the Employer shall reject the Bid.
41. Unbalanced or Front Loaded Bids	41.1 If the Bid for an admeasurement contract, which results in the lowest evaluated cost, in the Employer's opinion, seriously unbalanced or front loaded the Employer may require the Bidder to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the Bid prices with the scope of works, proposed methodology, schedule and any other requirements of the bidding document. 41.2 After the evaluation of the information and detailed price analyses presented by the Bidder, the Employer may as appropriate: (a) accept the Bid; or (b) require that the amount of the performance security be increased at the expense of the Bidder to a level not exceeding 20% of the Contract price; or (c) reject the Bid.
42. Most Advantageous Bid	42.1 Having compared the evaluated costs of Bids, the Employer shall determine the Most Advantageous Bid. The Most Advantageous Bid is the Bid of the Bidder that meets the Qualification Criteria and whose Bid has been determined to

than 50 percent ownership by nationals of the country of the Employer, and the JV shall be registered in the country of the Employer. The JV shall not subcontract more than 10 percent of the contract price, excluding provisional sums, to foreign firms. JVs between foreign and national firms will not be eligible for domestic preference.

	be: (a) substantially responsive to the bidding document; and (b) the lowest evaluated cost.
43. Employer's Right to Accept Any Bid, and to Reject Any or All Bids	43.1 The *Employer* reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids at any time prior to Contract Award, without thereby incurring any liability to Bidders. In case of annulment, all Bids submitted and specifically, Bid Securities, shall be promptly returned to the Bidders.
44. Standstill Period	44.1 The Contract shall be awarded not earlier than the expiry of the Standstill Period. The duration of the Standstill Period is **specified in the BDS.** Where only one Bid is submitted, the Standstill Period shall not apply.
45. Notice of Intention to Award	45.1 When a Standstill Period applies, it shall commence when the Employer has transmitted to each Bidder (that has not already been notified that it has been unsuccessful) the Notification of Intention to Award the Contract to the successful Bidder. The Notification of Intention to Award shall contain, at a minimum, the following information: (a) the name and address of the Bidder submitting the successful Bid; (b) the Contract price of the successful Bid; (c) the names of all Bidders who submitted Bids, and their Bid prices as readout, and as evaluated; (d) a statement of the reason(s) the Bid (of the unsuccessful Bidder to whom the letter is addressed) was unsuccessful, unless the price information in c) above already reveals the reason; (e) the expiry date of the Standstill Period; and (f) instructions on how to request a debriefing and/or submit a complaint during the standstill period.
J. Award of Contract	
46. Award Criteria	46.1 Subject to ITB 43, the Employer shall award the Contract to the successful Bidder. This is the Bidder whose Bid has been determined to be the Most Advantageous Bid as specified in ITB 42.
47. Notification of Award	47.1 Prior to the expiration of the Bid Validity Period and upon expiry of the Standstill Period, specified in BDS ITB 44.1 or any extension thereof, or upon satisfactorily addressing a complaint that has been filed within the Standstill Period, the

	Employer shall transmit the Letter of Acceptance to the successful Bidder. The Letter of Acceptance shall specify the sum that the Employer will pay the Contractor in consideration of the execution of the contract (hereinafter, and in the Conditions of Contract and Contract Forms, called "the Contract Price"). 47.2 At the same time, the Employer shall publish the Contract Award Notice which shall contain, at a minimum, the following information: (a) name and address of the Employer; (b) name and reference number of the contract being awarded, and the selection method used; (c) names of all Bidders that submitted Bids, and their Bid prices as read out at Bid opening, and as evaluated; (d) names of all Bidders whose Bids were rejected either as nonresponsive or as not meeting qualification criteria, or were not evaluated, with the reasons therefor; and (e) the name of the successful Bidder, the final total contract price, the contract duration and a summary of its scope. 47.3 The Contract Award Notice shall be published on the Employer's website with free access. 47.4 Until a formal Contract is prepared and executed, the Letter of Acceptance shall not constitute a binding Contract.
48. Debriefing by the Employer	48.1 On receipt of the Employer's Notification of Intention to Award referred to in ITB 45.1, an unsuccessful Bidder has three (3) Business Days to make a written request to the Employer for a debriefing. The Employer shall provide a debriefing to all unsuccessful Bidders whose request is received within this deadline.
	48.2 Where a request for debriefing is received within the deadline, the Employer shall provide a debriefing within five (5) Business Days, unless the Employer decides, for justifiable reasons, to provide the debriefing outside this timeframe. In that case, the standstill period shall automatically be extended until five (5) Business Days after such debriefing is provided. If more than one debriefing is so delayed, the standstill period shall not end earlier than five (5) Business Days after the last debriefing takes place. The Employer shall promptly inform, by the quickest means available, all Bidders of the extended standstill period
	48.3 Where a request for debriefing is received by the Employer

		later than the three (3)-Business Day deadline, the Employer should provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of Public Notice of Award of contract. Requests for debriefing received outside the three (3)-day deadline shall not lead to extension of the standstill period.
	48.4	Debriefings of unsuccessful Bidders may be done in writing or verbally. The Bidder shall bear their own costs of attending such a debriefing meeting.
49. Signing of Contract	49.1	Promptly upon Notification of Award, the Employer shall send the successful Bidder the Contract Agreement.
	49.2	Within twenty-eight (28) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Employer.
50. Performance Security	50.1	Within twenty-eight (28) days of the receipt of the Letter of Acceptance from the Employer, the successful Bidder shall furnish the Performance Security, in accordance with the General Conditions of Contract, subject to ITB 41.2 (b), using for that purpose the Performance Security, Contract Forms, or another form acceptable to the Employer. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Employer. A foreign institution providing a bond shall have a correspondent financial institution located in the Employer's Country, unless the Employer has agreed in writing that a correspondent financial institution is not required.
	50.2	Failure of the successful Bidder to submit the above-mentioned Performance Security, or to sign the Contract Agreement shall constitute sufficient *grounds* for the annulment of the award and forfeiture of the Bid Security. In that event the Employer may award the Contract to the Bidder offering the next Most Advantageous Bid.
51. Adjudicator	51.1	The Employer proposes the person named **in the BDS** to be appointed as Adjudicator under the Contract, at the hourly fee **specified in the BDS**, plus reimbursable expenses. If the Bidder disagrees with this proposal, the Bidder should so state in his Bid. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the Particular Conditions of Contract (PCC) pursuant to Clause 23.1 of the General Conditions of Contract (GCC), to appoint the Adjudicator.
52. Procurement	52.1	The procedures for making a Procurement-related Complaint

Related Complaint	are as specified in the BDS.

Section II - Bid Data Sheet (BDS)

A. General	
ITB 1.1	The reference number of the Request for Bids (RFB) is:: ________________ The Employer is***: Aligarh Smart City Limited*** The name of the RFB is Design, Construction Of Rain Water Harvesting & Ground Water Recharge Including 5 Years Of Operations And Maintenance (Under Smart City Mission)
ITB 1.2 (a)	The number and identification of comprising this RFB is:
ITB 1.2(a)	**Electronic –Procurement System** The Employer shall use the following electronic-procurement system to manage this Bidding process: https://etender.up.nic.in and https://www.nnaligarh.com and www.smartcityaligarh.com The electronic-procurement system shall be used to manage the following aspects of the Bidding process: • Technical Proposal containing all the required documents in the required formats. • Financial Proposal: The Priced Bid shall be uploaded through web-portal only.
ITB 2.1	The name of the Project is: Design, Construction Of Rain Water Harvesting & Ground Water Recharge Including 5 Years Of Operations And Maintenance (Under Smart City Mission)
ITB 4.1	Maximum number of members in the JV shall be: ***None***
B. Contents of Bidding Document	
ITB 7.1	For **clarification purposes** only, the Employer's address is: Attention: ***Chief Executive Officer*** Aligarh Smart City Limited Aligarh Municipal Corporation Office Room No 108, Sewa Bhawan, Near Ghanta Ghar Church Compound, Civil Lines, Lal Diggi Road, Aligarh, Uttar Pradesh 202001, India

	PIN Code: 202001**,** Telephone: 0571-2401807, 2405520 Electronic mail address: ***aligarhsmartcityltd@gmail.com*** Requests for clarification should be received by the Employer no later than: ***5 days (five days).***
ITB 7.1	Requests for clarification should be received by the Employer no later than: ***5 days (five days).*** Web page: https://etender.up.nic.in and https://www.nnaligarh.com and www.smartcityaligarh.com
ITB 7.4	A Pre-Bid meeting ***"shall"*** take place at the following date, time and place: Date: 07-07-2018; Time: 1600 hrs Place: Room no 108, Aligarh Smart City Limited, Aligarh Municipal Corporation Office, Room No 108, Sewa Bhawan, Near Ghanta Ghar
ITB 7.6	Web page: https://etender.up.nic.in and https://www.nnaligarh.com and www.smartcityaligarh.com
C. Preparation of Bids	
ITB 10.1	The language of the Bid is: ***English*** All correspondence exchange shall be in ***English*** language. Language for translation of supporting documents and printed literature is ***English***
ITB 11.2 (h)	Total monetary value of similar work performed for each of the last seven years; ***Similar Work is defined as:*** *Should have completed works pertaining to rain water harvesting/ ground water recharge in government building.* ***Other Conditions*** (a) Experience in works of similar nature and size for each of the last seven years, and details of works underway or contractually committed with their certificates from the concerned officer not less the rank of Executive Engineer or Equivalent. A list of clients with their contact details, who may be contacted for further information on those contracts, shall also be provided. (b) Major items of construction equipment proposed to carry out the Contract; (c) Qualifications and experience of key site management and technical personnel proposed for Contract; Reports on the financial standing of the Bidder, such as profit and

	loss statements and auditor's reports for the past three years; (d) Authority may seek references from the Bidder's bankers; (e) Information regarding any litigation, current or during the last seven years, in which the Bidder is involved, the parties concerned, and disputed Amount
ITB 11.3 (b)	The following schedules shall be submitted with the Bid: ***Time Schedule for Project.***
ITB 14.5	The prices quoted by the Bidder ***shall not be*** subject to adjustment during the performance of the Contract.
ITB 15.1	The price shall be quoted by the Bidder in: ***Indian Rupees***
ITB 18.1	The Bid validity period shall be ***120***days.
ITB 19.1	A Bid Security ***shall be*** required. A Bid-Securing Declaration ***shall not be*** required. If a Bid Security/EMD shall be required, the amount and currency of the Bid Security shall be: INR 96,320/- (Rupees Ninety Six Thousand and Three Hundred Twenty Only)
ITB 19.3 (d)	Other types of acceptable securities: ***(a) NEFT/RTGS*** ***(b) Net Banking*** Payment of which is to be made in the A/C no. 0294001100000818 of the ASCL. IFSC : PUNB0001000
ITB 19.9	If the Bidder performs any of the actions prescribed in ITB 19.9 (a) or (b), the Employer will declare the Bidder **ineligible** to be awarded contracts by the Employer for a period of ***3*** years.
ITB 20.3	The written confirmation of authorization to sign on behalf of the Bidder shall consist of; ***Duly executed Power of Attorney in favour of person who is submitting the Bid***
D. Submission of Bids	
ITB 21.2	In addition to the original of the Bid, the number of copies is: ***Zero (0).***
ITB 22.1	For **Bid submission purposes** only, the Employer's address is: Street Address: Aligarh Smart City Limited Aligarh Municipal Corporation Office

	Room No 108, Sewa Bhawan, Near Ghanta Ghar Church Compound, Civil Lines, Lal Diggi Road, Aligarh, Uttar Pradesh 202001, India PIN Code: 202001, Telephone: 0571-2401807, 2405520 Date: 16-07-2018, Time: 1500 Hrs Bidders ***"shall" mandatorily submit all the copies of the Bid vide web portal.*** The electronic bidding submission procedures shall be: The bidder would be required to register on the e-procurement market place https://etender.up.nic.in and https://www.nnaligarh.com and www.smartcityaligarh.com and submit their bids online. Bidders are requested to submit the bid in two stages: Stage – I: Eligibility and Technical Bid Stage. Stage – II: Financial Bid Stage. • The first stage will cover the qualifications and eligibility criteria and the technical bid. The bidder shall upload documents in support of the above. The bidder shall submit price bid online under second stage which may include proposals for financing to cover part of the Scope of Work as per bid documents before the bid submission closing date. • Bidders shall submit a declaration without any reservation whatsoever that the submitted eligibility and qualification details, Techno-Commercial bid and financial bid are without any deviations and are strictly in conformity with the bid documents issued by the Employer. • Declaration should be given by the bidder for the correctness of the credentials submitted by him.
E. Public Opening of Technical Parts of Bids	
ITB 25.1	The Bid opening shall take place at: Street Address: Aligarh Municipal Corporation Office Room no 108, Sewa Bhawan, Near Ghanta Ghar Church Compound, Civil Lines, Lal Diggi Road, Aligarh, Uttar Pradesh 202001, India Date: 17-07-2018 Time: 1100 hrs.
ITB 25.1	The electronic Bid opening procedures shall be: ***Bid opening will be as per the e-procurement procedures.***
F. Evaluation of Bids – General Provisions	
ITB 29.3	***Not Applicable***

G. Evaluation of Bids - Technical Parts	
ITB 33.1	At this time the Employer to execute certain specific parts of the Works by subcontractors selected in advance- ***None***
ITB 33.3	Contractor's proposed subcontracting: ***None***
H. Public Opening of Financial Parts	
ITB 34.2 (c)	Following the completion of the evaluation of the Technical Parts of the Bids, the Employer will notify vide the e-portal mentioning of the location, date and time of the public opening of Financial Bid. The Employer shall publish a notice of the public opening of the Financial Bids on its website.
I. Evaluation of Bids - Financial Parts	
ITB 37.1	The currency that shall be used for Bid evaluation and comparison purposes to convert at the selling exchange rate all Bid prices expressed in various currencies into a single currency is: ***Indian Rupees(INR)*** The source of exchange rate shall be: ***Reserve Bank of India*** The date for the exchange rate shall be*: **28 days before the Submission of Bid***
ITB 44 **Standstill Period**	***Not Applicable***
J. Award of Contract	
ITB 51 **Adjudicator**	The Adjudicator proposed by the Employer is***:*** to be proposed later.

Section III - Evaluation and Qualification Criteria

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
				Joint Venture (existing or intended)			
No.	**Subject**	**Requirement**	**Single Entity**	**All members Combined**	**Each member**	**At least one member**	**Submission Requirements**
1. Eligibility							
1.1	Nationality	Nationality in accordance with ITB 4	Must meet requirement	N/A	N/A	N/A	Forms ELI – 1.1 and 1.2, with attachments
1.2	Conflict of Interest	No conflicts of interest in accordance with ITB 4	Must meet requirement	N/A	N/A	N/A	Letter of Bid
1.3	Employer Eligibility	Not having been declared ineligible by the Employer, as described in ITB 4	Must meet requirement	N/A	N/A	N/A	Letter of Bid
1.4	State-owned enterprise or institution of the Employer country	Meets conditions of ITB 4	Must meet requirement	N/A	N/A	N/A	Forms ELI – 1.1 and 1.2, with attachments

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All members Combined	Each member	At least one member	
1.	**Historical Contract Non-Performance**						
2.1	History of Non-Performing Contracts	Non-performance of a contract1 did not occur as a result of contractor default since 10 years prior to 30 days from the due date of Bid Submission.	Must meet requirement[1 and 2]	N/A	N/A	N/A	Form CON-2
2.2	Suspension Based on Execution of Bid/Proposal Securing Declaration by the Employer or withdrawal of the Bid within Bid validity period	Not under suspension based on execution of a Bid/Proposal Securing Declaration pursuant to ITB 4 or withdrawal of the Bid pursuant ITB 19.9.	Must meet requirement	N/A	N/A	N/A	Letter of Bid
2.3	Pending Litigation	Bidder's financial position and prospective long term profitability sound according to criteria established in 3.1 below and assuming that all pending litigation will be resolved against the Bidder	Must meet requirement	N/A	N/A	N/A	Form CON – 2
2.4	Litigation	No consistent history of	Must meet	N/A	N/A	N/A	Form CON – 2

[1] Non-performance, as decided by the Employer, shall include all contracts where (a) non performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Non performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All members Combined	Each member	At least one member	
	History	court/arbitral award decisions against the Bidder2 since 10 years prior to 30 days from the due date of Bid Submission	requirement				
3. Financial Situation and Performance							
3.1	Financial Capabilities	The Bidder shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as ***25%*** of the estimated contract value for the subject contract(s) net of the Bidder's other commitments.	Must meet requirement	N/A	N/A	N/A	Form FIN – 3.1, with attachments
		The audited balance sheets for the last 3years shall be submitted and must demonstrate the current soundness of the Bidder's financial position and ***shall be a profit making organisation***.	Must meet requirement	N/A	N/A	N/A	
3.2	Average Annual Turnover	Minimum average annual turnover of INR 53 Lakhs	Must meet requirement	N/A	N/A	N/A	Form FIN – 3.2

[2] The Bidder shall provide accurate information on the letter of Bid about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of court/arbitral awards against the Bidder or any member of a joint venture may result in disqualifying the Bidder.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	**Subject**	**Requirement**	**Single Entity**	**Joint Venture (existing or intended)**			**Submission Requirements**
				All members Combined	**Each member**	**At least one member**	
		(Rupees Fifty Three Lakhs) , calculated as total payments received for contracts in progress and/or completed within the last 3 years, divided by 3 years					
4. Experience							
4.1 (a)	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, nominated sub-contractor, or management contractor for at 10 years prior to 30 days from the due date of Bid Submission	Must meet requirement	N/A	N/A	N/A	Form EXP – 4.1
4.2 (a)	Specific Construction & Contract Management Experience	(i) A minimum Works means ***Similar Completed Works*** as a prime contractor, joint venture member[3], management contractor or nominated sub-contractor[3] in 10 years prior to 30 days from the due date of Bid Submission. ***Completed Similar Civil Work : Similar Works defined as BDS 11.2 (h)*** ***1(One) number similar completed work of 80% cost***	Must meet requirements	N/A	N/A	N/A	Form EXP 4.2(a)

[3] For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share, by value, shall be considered to meet this requirement.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All members Combined	Each member	At least one member	
		value (excluding the cost of the land) in a single contract. ***OR*** ***2(Two) numbers similar completed works each of 50% cost value (excluding the cost of the land) in two different contract.*** ***OR*** ***3(three) numbers similar completed works each of 40% cost value (excluding the cost of the land) in three different contracts.***					

5. Key Personnel

The Bidder must demonstrate that it will have a suitably qualified (and in adequate numbers) minimum Key Personnel, as described in the table below, that are required to perform the Contract.

The Bidder shall provide details of the Key Personnel and such other Key Personnel that the Bidder considers appropriate, together with their academic qualifications and work experience. The Bidder shall complete the relevant Forms in Section IV, Bidding Forms.

The Contractor shall require the Employer's consent to substitute or replace the Key Personnel (reference the Particular Conditions of Contract 9.1).

Key Personnel

No.	Position	Total Work Similar Experience (years)	Nos
1	Project Manager	B.E Civil+10 Year experience	1 Nos
2	Supervisors	Diploma Civil + 5 Year experience	2 Nos
3	Foreman	Having similar experience works of at least 10 years	2 Nos
4	Welders	Having 3 years of similar experience with required certification	1 Nos

6. Equipment

The Bidder must demonstrate that it has the key equipment listed hereafter:

S. No	Type of Equipment	Maximum age as on 31.03.2018 (years)	Minimum Nos.
1	Water Tanker	-(preferably new)	03 Nos
2	DG sets	-(preferably new)	02 nos

The Bidder shall provide further details of proposed items of equipment using Form EQU in Section IV, Bidding Forms.

Section IV - Bidding Forms

Table of Forms

Letter of Bid - Technical Part

Date of this Bid submission: [*insert date (as day, month and year) of Bid submission*]
Request for Bid No.: [*insert identification*]

To:
Chief Executive Officer
Aligarh Municipal Corporation Office
Sewa Bhawan, Near Ghanta Ghar
Church Compound, Civil Lines, Lal Diggi Road,
Aligarh, Uttar Pradesh 202001, India
PIN Code: 202001, Telephone: 0571-2401807, 2405520

We, the undersigned, hereby submit our Bid, in two parts, namely:

(a) the Technical Part, and

(b) the Financial Part

In submitting our Bid, we make the following declarations:

(a) **No reservations:** We have examined and have no reservations to the bidding document, including Addenda issued in accordance with Instructions to Bidders (ITB 8);

(b) **Eligibility**: We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;

(c) **Bid-Securing Declaration:** We have not been suspended nor declared ineligible by the Employer based on execution of a Bid-Securing Declaration or Proposal-Securing Declaration in the Employer's country in accordance with ITB 4.7;

(d) **Conformity**: We offer to execute in conformity with the bidding document the following Works: [*insert a brief description of the Works*]___________________________________

____;

(e) **Bid Validity Period**: Our Bid shall be valid for a period specified in BDS 18.1 (or as amended if applicable) from the date fixed for the Bid submission deadline specified in BDS 22.1 (or as amended if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(f) **Performance Security:** If our Bid is accepted, we commit to obtain a Performance Security in accordance with the bidding document;

(g) **One Bid Per Bidder:** We are not submitting any other Bid(s) as an individual Bidder or as a subcontractor, and we are not participating in any other Bid(s) as a Joint Venture member, and meet the requirements of ITB 4.3, other than alternative Bids submitted in accordance with ITB 13;

(h) **State-owned enterprise or institution:** [*select the appropriate option and delete the other*] [*We are not a state-owned enterprise or institution*] / [*We are a state-owned enterprise or institution but meet the requirements of ITB 4.6*];

(i) **Binding Contract**: We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

(j) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Bid, the Most Advantageous Bid or any other Bid that you may receive; and

(k) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption;

Name of the Bidder: *[*insert complete name of person signing the Bid*]

Name of the person duly authorized to sign the Bid on behalf of the Bidder: ** [*insert complete name of person duly authorized to sign the Bid*]

Title of the person signing the Bid: [*insert complete title of the person signing the Bid*]

Signature of the person named above: [*insert signature of person whose name and capacity are shown above*]

Date signed [*insert date of signing*] **day of** [*insert month*], [*insert year*]

Date signed ________________________________ day of _______________________,

*****: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

**: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid

Appendix B to Technical Part: Equipment

The Bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment listed in Section III, Evaluation and Qualification Criteria. A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder.

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment (a) ☐ Owned ☐ Rented ☐ Leased ☐ Specially manufactured	

Omit the following information for equipment owned by the Bidder.

Owner	Name of owner	
	Address of owner	
	Telephone	Contact name and title
	Fax	Telex
Agreements	Details of rental / lease / manufacture agreements specific to the project	

Appendix C to Technical Part: Key Personnel

Form PER -1: Key Personnel Schedule

Bidders should provide the names and details of the suitably qualified Key Personnel to perform the Contract. The data on their experience should be supplied using the Form PER-2 below for each candidate.

Key Personnel

1.	**Title of position:**	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
2.	**Title of position:**	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
3.	**Title of position:**	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
4.	**Title of position:**	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]

	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
5.	**Title of position:** *[insert title]*	
	Name of candidate	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]

Appendix D to Technical Part: Bidder's Qualification

To establish its qualifications to perform the contract in accordance with Section III (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder.

Form ELI -1.1

Bidder Information Form

Date: ___________________
RFB No. and title: ___________________
Page __________of _______________pages

Bidder's name
In case of Joint Venture (JV), name of each member:
Bidder's actual or intended country of registration: *[indicate country of Constitution]*
Bidder's actual or intended year of incorporation:
Bidder's legal address [in country of registration]:
Bidder's authorized representative information Name: _____________________________________ Address: ___________________________________ Telephone/Fax numbers: _______________________ E-mail address: _______________________________
1. Attached are copies of original documents of ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.4. ☐ In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1. ☐ In case of state-owned enterprise or institution, in accordance with ITB 4.6 documents establishing: • Legal and financial autonomy • Operation under commercial law • Establishing that the Bidder is not under the supervision of the Employer 2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Form CON – 2

Historical Contract Non-Performance, Pending Litigation and Litigation History

Bidder's Name: ________________
Date: ______________________
JV Member's Name__________________________
RFB No. and title: ___________________________
Page _______________of _______________pages

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
☐ Contract non-performance did not occur since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1. ☐ Contract(s) not performed since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, requirement 2.1			
Year	**Non-performed portion of contract**	**Contract Identification**	**Total Contract Amount (current value, currency, exchange rate and INR equivalent)**
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Reason(s) for non-performance: *[indicate main reason(s)]*	*[insert amount]*
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
☐ No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3. ☐ Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3 as indicated below.			

Year of dispute	**Amount in dispute (currency)**	**Contract Identification**	**Total Contract Amount (currency), INR Equivalent (exchange rate)**
		Contract Identification: __________ Name of Employer: _____________ Address of Employer: ___________ Matter in dispute: ________________ Party who initiated the dispute: ____ Status of dispute: ____________	
		Contract Identification: Name of Employer: Address of Employer: Matter in dispute: Party who initiated the dispute: Status of dispute:	
Litigation History in accordance with Section III, Evaluation and Qualification Criteria			
☐ No Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4. ☐ Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.			
Year of award	**Outcome as percentage of Net Worth**	**Contract Identification**	**Total Contract Amount (currency), INR Equivalent (exchange rate)**
[insert year]	*[insert percentage]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Employer" or "Contractor"]* Reason(s) for Litigation and award decision *[indicate main reason(s)]*	*[insert amount]*

Form FIN – 3.1
Financial Situation and Performance

Bidder's Name: ________________
Date: ____________________
JV Member's Name________________________
RFB No. and title: ___________________________
Page _______________of _______________pages

1. Financial data#

Type of Financial information in (currency)	**Historic information for previous _________ years, _______________ (amount in currency, currency, exchange rate*, in INR equivalent)**				
	Year 1	Year 2	Year 3	Year4	Year 5
Statement of Financial Position (Information from Balance Sheet)					
Total Assets (TA)					
Total Liabilities (TL)					
Total Equity/Net Worth (NW)					
Current Assets (CA)					
Current Liabilities (CL)					
Working Capital (WC)					
Information from Income Statement					
Total Revenue (TR)					
Profits Before Taxes (PBT)					
Cash Flow Information					
Cash Flow from Operating Activities					

*Refer to ITB 15 for the exchange rate

The Financial Certificate shall be certified by the Chartered Accountant.

Form FIN - 3.2:

Average Annual Turnover

(See Section III, Evaluation and Qualification Criteria, Sub-Factor 3.2)

Bidder's Name: ________________
Date: ______________________

S. No.	Financial Year	Annual Construction Turnover (INR Crore)
1	Financial Year 2015-16	
2	Financial Year 2016-17	
3	Financial Year 2017-18	

Note: The audited Financial Statements for the corresponding year has to be attached.

Name of the auditor issuing the certificate

Name of the auditor's Firm:

Seal of the auditor's Firm:

Date:

(Signature, name and designation of the authorised signatory for the Auditor's Firm)

* See Section III, Evaluation and Qualification Criteria, Sub-Factor 3.2.

Form FIN – 3.3
Financial Resources

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total construction cash flow demands of the subject contract or contracts as specified in Section III (Evaluation and Qualification Criteria)

Financial Resources		
No.	**Source of financing**	**Amount (INR equivalent)**
1		
2		
3		

Form FIN – 3.4
Current Contract Commitments / Works in Progress

Bidders and each member to a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

Current Contract Commitments					
No.	**Name of Contract**	**Employer's Contact Address, Tel, Fax**	**Value of Outstanding Work [Current INR Equivalent]**	**Estimated Completion Date**	**Average Monthly Invoicing Over Last Six Months [INR month)]**
1					
2					
3					
4					
5					

Form EXP - 4.1

General Construction Experience

Bidder's Name: ________________
Date: ____________________
JV Member's Name________________________
RFB No. and title: __________________________
Page _______________of ______________pages

Starting Year	Ending Year	Contract Identification	Role of Bidder
		Contract name: _____________________ Brief Description of the Works performed by the Bidder: ______________________________ Amount of contract: ____________________ Name of Employer: _____________________ Address: ______________________________	
		Contract name: __________________________ Brief Description of the Works performed by the Bidder: ______________________________ Amount of contract: ____________________ Name of Employer: ____________________ Address: __________________________	
		Contract name: _________________________ Brief Description of the Works performed by the Bidder: ___________________________ Amount of contract: ____________________ Name of Employer: ____________________ Address: __________________________	

Form EXP - 4.2(a)

Specific Construction and Contract Management Experience

Bidder's Name: ______________

Date: ______________

JV Member's Name______________

RFB No. and title: ______________

Page ______________of ______________pages

Similar Contract No.	**Information**			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount			INR	
If member in a JV or sub-contractor, specify participation in total Contract amount				
Employer's Name:				
Address: Telephone/fax number E-mail:				

Form EXP - 4.2(a) (cont.)

Specific Construction and Contract Management Experience (cont.)

Similar Contract No.	Information
Description of the similarity in accordance with Sub-Factor 4.2(a) of Section III:	
1. Amount	
2. Physical size of required works items	
3. Complexity	
4. Methods/Technology	
5. Construction rate for key activities	
6. Other Characteristics	

Letter of Bid - Financial Part

Date of this Bid submission: [*insert date (as day, month and year) of Bid submission*]
Request for Bid No.: [*insert identification*]

To:

Chief Executive Officer
Aligarh Municipal Corporation Office
Sewa Bhawan, Near Ghanta Ghar
Church Compound, Civil Lines, Lal Diggi Road,
Aligarh, Uttar Pradesh 202001, India
PIN Code: 202001, Telephone: 0571-2401807, 2405520

We, the undersigned, hereby submit the second part of our Bid, the Bid Price and Bill of Quantities. This accompanies the Letter of Technical Part.

In submitting our Bid, we make the following additional declarations:

(a) **Bid Validity Period**: Our Bid shall be valid for a period specified in BDS 18.1 (or as amended if applicable) from the date fixed for the Bid submission deadline specified in BDS 22.1 (or as amended if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(b) **Total Price**: The total price of our Bid, excluding any discounts offered in item (f) below is: [Insert one of the options below as appropriate]

Total price is: [*insert the total price of the Bid in words and figures, indicating the various amounts and the respective currencies*];

(c) **Discounts:** The discounts offered and the methodology for their application are:

(i) The discounts offered are: [*Specify in detail each discount offered*]

(ii) The exact method of calculations to determine the net price after application of discounts is shown below: [*Specify in detail the method that shall be used to apply the discounts*];

(d) **Commissions,** gratuities **and fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the Bidding process or execution of the Contract: [*insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity*].

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

Name of the Bidder:*[*insert complete name of person signing the Bid*]

Name of the person duly authorized to sign the Bid on behalf of the Bidder: ** [*insert complete name of person duly authorized to sign the Bid*]

Title of the person signing the Bid: [*insert complete title of the person signing the Bid*]

Signature of the person named above: [*insert signature of person whose name and capacity are shown above*]

Date signed [*insert date of signing*] **day of** [*insert month*], [*insert year*]

*****: In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder.

**: Person signing the Bid shall have the power of attorney given by the Bidder. The power of attorney shall be attached with the Bid Schedules

Schedules

Bill of Quantities

(to be downloaded from https://etender.up.nic.in and https://www.nnaligarh.com and www.smartcityaligarh.com)

Section V - Eligible Countries

Eligibility of Procurement for the Provision of Goods, Works and Non-consulting Services in the projects financed by Government of India and/or State Government of Uttar Pradesh

In reference to ITB 4.8 and ITB 5.1, the bidders are requested to check the eligibilities of the countries for procurement of goods, works and Non-consulting Services whether declared prohibited/ ineligible for trade and/or procurement by the Government of India (GoI). During the Contract agreement, if at any time GoI declares the prohibition of trade/procurement of goods, works, Non-consulting services from country/countries, the same shall be applicable w.e.f. the date of enforcement declared by the Government of India

Section VI - Fraud and Corruption

6.1 The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bidding Process and subsequent to the issue of the Letter of Acceptance and/or Letter of Award and during the subsistence of the Contract Agreement. Notwithstanding anything to the contrary contained herein, or in the Letter of Acceptance and/or Letter of Award or the Contract Agreement, the Employer shall reject a Bid, withdraw the Letter of Acceptance and/or Letter of Award, or terminate the Contract Agreement, as the case may be, without being liable in any manner whatsoever to the Bidder or Contractor or Concessionaire, as the case may be, if it determines that the Bidder or Contractor or Concessionaire, as the case may be, has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bidding Process. In such an event, the Employer shall forfeit and appropriate the Bid Security or Performance Security, as the case may be, as mutually agreed genuine pre-estimated compensation and damages payable to the Employer towards, inter alia, time, cost and effort of the Employer, without prejudice to any other right or remedy that may be available to the Employer hereunder or otherwise.

6.2 Without prejudice to the rights of the Employer under Clause 6.1 hereinabove and the rights and remedies which the Employer may have under the Letter of Acceptance and/or Letter of Award or the Contract Agreement, if a Bidder or contractor or Concessionaire, as the case may be, is found by the Employer to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bidding Process, or after the issue of the Letter of Acceptance and/or Letter of Award or the Contract Agreement or the execution of the Contract Agreement, such Bidder or Contractor or Concessionaire shall not be eligible to participate in any tender or RFB issued by the Employer during a period of 3 (three) years from the date such Bidder or Contractor or Concessionaire, as the case may be, is found by the Employer to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practices, as the case may be.

6.3 For the purposes of this Clause 6, the following terms shall have the meaning hereinafter respectively assigned to them:

(a) "corrupt practice" means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bidding Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Employer who is or has been associated in any manner, directly or indirectly with the Bidding Process or the Letter of Acceptance and/or Letter of Award or has dealt with matters concerning the Contract Agreement or arising therefrom, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Employer, shall be deemed to constitute influencing the actions of a person connected with the Bidding Process); or (ii) engaging in any manner whatsoever, whether during the Bidding Process or after the issue of the Letter of Acceptance and/or Letter of Award or after the execution of the Contract

Agreement, as the case may be, any person in respect of any matter relating to the Project or the Letter of Acceptance and/or Letter of Award or the Contract Agreement, who at any time has been or is a legal, financial or technical adviser of the Employer in relation to any matter concerning the Project;

(b) "fraudulent practice" means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bidding Process ;

(c) "coercive practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the Bidding Process;

(d) "undesirable practice" means (i) establishing contact with any person connected with or employed or engaged by the Employer with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bidding Process; or (ii) having a Conflict of Interest; and

(e) "Restrictive practice" means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bidding Process.

PART 2 –Works' Requirements

Section VII - Works' Requirements

Table of Contents

Chapter 1- Location of Site

Smart Cities Mission is an urban renewal and retrofitting program by the Government of India with a mission to develop 100 cities all over the country making them citizen friendly and sustainable. The objective of Smart Cities Mission is to promote cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of 'Smart' Solutions. The focus is on sustainable and inclusive development and the idea is to look at compact areas, create a replicable model which will act like a light house to other aspiring cities. It is meant to set examples that can be replicated both within and outside the Smart City, catalyzing the creation of similar Smart Cities in various regions and parts of the country. Rainwater Harvesting & Ground Water Recharge is one of the projects envisaged in the Aligarh Smart City Project.

Aligarh is one of the seventy one districts of Uttar Pradesh (North India), at a distance of about 126 km from India's capital New Delhi. The district of Aligarh spreads from 27°88N latitude to 78°08'E longitude at an elevation of 178m above M.S.L. The greatest width from west to east is about 116km and the maximum length from north to south is about 72km and forms part of the fertile Ganga-Yamuna 'Doab'. The district spreads over 4023 square kilometers and this area varies slightly from year to year due to the changing courses of river Ganga and Yamuna. River Ganga separates the district from Budaun for a few kilometers in the northeast while river Yamuna constitutes the dividing line in the North West between Aligarh and Gurgaon district of the state of Haryana to the north, the boundary is formed by Anupshahar and Churja tehsils of district Bulandshahar. On the west and south west lie Chatta, Mat and Sadabad tehsils of Mathura district while in the southeast and east the boundary is formed by Jalesar, Etah and Kasganj tehsils of Etah district.

Aligarh district lies in an extensive alluvial plain formed by the deposition of alluvium in a fore deep. The plain in Aligarh district, like a true representative of the Gangetic plain, is generally level with imperceptible slope from north to south. It is remarkably homogeneous in character but at some places ridges alternated by depressions are found especially in the western part of the district.

The climate of the Aligarh city is tropical monsoon type which is characterized by a seasonal rhythm of the southwest and northeast monsoon whether in summer is hot and pleasant in winter and a general dryness is experienced except in the monsoon season. The cold weather season which start from the middle of the month November to early March is followed by the hot weather season which lasts until the middle of the month of June. The southwest monsoon season takes on start from the middle of the month of June and ends to the third week of the month of September. The period extending from the last week of September to the middle of November may be termed the post monsoon season.

The climate is similar to that of the Ganga Yamuna Doab. The district experiences a severe cold in winter and oppressive hot in summer. The minimum and maximum temperature recorded as 27°C and 44°C in 1990 whereas; it was 70.2°cm in 1990-91. The city has a tropical climate average rainfall of about 600-800 mm mainly drawn from monsoon between June to September every year. The rainfall in winter months is very low and irregular. This rain is brought by the western depressions originating in the north of Atlantic and proceeding eastwards with the prevailing westerlies. The average rate of rainfall in Aligarh, caused by these disturbances, is varied from 0.0 to 94.4mm/h from December to February. The weather during March till June is temperate to sultry (oppressively hot and humid).

Chapter 2- Scope of Work

1.1. Brief Scope

Construction of Rain water harvesting- pits for Government buildings at Various Locations in ABD area of Aligarh Smart City including with a Defect Liability Period of 2years. Rain water harvesting system has to provide for the buildings under ABD area with installing the rain water drainage system for the buildings and conveying the to the Rain water harvesting structure through the storm water drainage network.

1.2. Detailed Scope of Work and Specifications:

The scope of includes Connecting Rain water down take pipe from buildings to the Rain water harvesting structure through network of the drains.

Functional Requirement: To store and recharge the rainwater to the Aquifer below.
Rain water harvesting structure: The RCC chambers shall be provided as shown in drawings. Detailed drawing shall be provided during construction. Exact location of installation of rain water harvesting pit shall be identified by contractor in consultation of building owner.

1.3. **Defect Liability:** If any manufacturing defects / Poor workmanship are found during the Defect Liability Period (DLP), then the contractor shall be liable for repair/ replacement of the same at his own cost.

1.4. Drawings:

ASCL will provide the following Drawings & these drawings
1) Location Plan of Rainwater Harvesting System on Google Maps
2) Typical drawings of Rainwater collection from Building and Rainwater Harvesting details.

1.5. Location of government buildings for proposed rainwater harvesting systems in ABD area

Rain water harvesting pits are proposed at following buildings. The roof area is also given in table below.

Sno.	Building Name	Rooftop Area (m^2)
1	Collectorate meeting hall (DM Court)	2183
2	Police Line, Badar Bagh	360
3	Jila Vidyalaya Nirikshak Karyalay	260
4	Treasury Office, Badar Bagh	370
5	Jauhar Bhawan Compound	1628
6	Civil Lane Police Station - Dodhpur	280
7	Diwani Parishar	1850
8	BSNL office (Telephone Exchange)	850

Note: ASCL reserves the rights to add/Reduce or delete any location(s) without any prior intimation.

1.6. Governing Standards for Construction

All the construction shall confirm to following codes.

1. CPWD specifications
2. IS codes

Chapter 3- Specifications and Standards

Technical Specification

1. General & Approach to Work Site

The general site particulars are shown in the Drawings as part of Tender Document. The scope of contractor has to identify the exact location of recharge pit within the premises of the Government building and seek approval on the location from ASCL, PMC and building owner.

1.1. Interpretations

The Employer/Engineer-in-charge shall be the sole deciding authority as to the meaning, interpretation and implications for various provisions of the specifications. His decision in writing shall be final.

In case the specification of an item is not available in this document, Contractor shall be permitted to use CPWD specification:

1.2. Intimation about commencement of work:

Before commencing the works and also during progress the bidder shall give due notice to the concerned authorities, the Municipality, the Roads and Buildings and Electricity Board, Telephone Department, the Traffic Department attached to the Police, other Departments and companies as may be required to the effect that the work is being taken up in a particular locality and that necessary diversion of traffic may be arranged for. The bidder shall cooperate with the Departments concerned and provide for necessary barricading of roads, protections to existing underground mains, cables etc.

1.3. Cross Drainage:

The bidder shall handle all flows from natural drainage channels intercepted by the work under these specifications, perform any additional excavation and grading for drainage as directed and maintain any temporary construction required to bypass or otherwise cause the flows to be harmless to the work and property. When the temporary construction is no longer needed and prior to acceptance of the work, the bidder shall remove the temporary construction and restore the site to its original condition as approved by the Engineer-in-Charge. The cost of all work and materials required by this paragraph shall be included by the bidder in the unit prices quoted in the section 6 of Vol. III (bill of quantities) and no separate payment will be made for the same.

1.4. Stacking of Excavated Material:

Where the location of the work is such and does not permit the deposition of excavated earth while digging trenches for laying pipes, the excavated earth should be conveyed to a convenient place and deposited there temporarily, as directed by the Engineer-in-Charge. Such deposited earth shall be reconveyed to the site of work for the purpose of refilling of trenches, if such deposited soil is suitable for refilling. The

unit rate for trench work of excavation and refilling shall include the cost of such operations.

1.5. Disposal of Surplus Earth:

The rate for excavation of trench work, shall include charges of shoring, strutting, any of these contingent works. While bailing out water care should be taken to see that the bailed out water is properly channelized to flow away without stagnation or inundating the adjoining road surfaces and properties.

2. EARTH WORK

2.1. Earth work - General:

2.1.1. Earth work diagrams and Data:

To the extent that they exist plans and earth work data prepared for the Government's (that is Government of Uttar Pradesh) studies of earth work for construction of the related works will be available for Inspection by the bidders in the Office of the concerned Engineer-in-Charge.

Such information is made available solely for the convenience of bidders. The Government does not represent that this information is accurate or complete. Bidders are cautioned that this information is subject to revision and that the Government disclaims responsibility for any interpretations, deductions or conclusions which may be made therefrom. It is not intended that this earth work information will limit or prescribe the excavation and handling procedure of the contractor, and the Government reserves the right to utilize and distribute earth work materials during the progress of work as best serves the interest of the Government.

2.1.2. Compacting Earth Materials:

Where compacting of earth materials is required, the materials shall be deposited in horizontal layers and compacted as specified in this paragraph. The excavation, placing, moistening and compacting operations shall be such that the materials will be uniformly compacted throughout the required section and will be homogeneous, free from lenses, pockets, streaks, voids, lamination or other imperfections. The compaction shall be carried out in accordance with the relevant clauses of I.S 4701 – 1982.

2.1.3. Classification of Excavation:

Except as other-wise provided in these specifications, material excavated will be measured in excavation to the lines shown on the drawings or as provided in these specification, and all materials so required to be excavated will be paid for at the applicable prices bid in the schedule for excavation. No additional allowance above the price bid in the schedule will be made on account of any of the material being wet. Bidders and the contractors must assume all responsibility for deducting and concluding as to the nature of the materials to be excavated and the difficulties of making and maintaining the required excavation. The Government does not represent

that the excavation can be performed or maintained at the paylines described in these specifications or shown on the drawings.

Excavation for removal of debris and deposited earth on berms while forming roads is to be carried out as specified in relevant clauses of 154701-1982 as compared before lying of berms with the same setting of roads.

2.1.4. Excavation for Structures:

General:

Excavation for the foundation of structures shall be to the elevation shown on the drawings or as directed by the Engineer-in-Charge. In so far as practicable, the material 3-2

removed in excavation for structures shall be used for back fill and embankments. Otherwise it shall be disposed off as specified in paragraph 2.4.

Foundations for Structures:

The Contractor shall prepare the foundations at structure/sites by methods which will provide firm foundation for the structures. The bottom and side slopes of common excavation upon or against which the structure is to be placed shall be finished to the prescribed dimensions and the surfaces so prepared shall be moistened and tamped with suitable tools to form firm foundation upon or against which to place the structure. The Contractor shall prepare the foundation for the structures as shown on respective drawings. The natural foundation material beneath, the required excavation shall be moistened if required and compacted in place.

Separate payment will not be made to the contractor for Moistening and compacting the foundation of structures. The contractor shall include cost thereof in the price bid per cubic meter of the item of the Bill of quantities for preparation of foundations.

Whenever unsuitable material is encountered in the foundation for a structure the Engineer-in-Charge will direct additional excavation to remove the unsuitable material. The cost of such additional excavation shall be paid at the unit price bid in the Bill of quantities for earth. The additional excavation shall be refilled by selected bedding material and compacted.

(c) **Over Excavation:**

If at any point in common excavation the foundation material is excavated beyond the lines required to receive the structure, or if at any point in common excavation the natural foundation material is disturbed or loosened during the excavation process, it shall be compacted in place or where directed, it shall be removed and replaced as follows. In excavation soils, the over excavation shall be filled in by selected bedding material and compacted. In excavation in rock it shall be filled with M5 grade cement concrete. Any and all excess excavation or over excavation performed by the Contractor for any purpose or reason except for additional excavation as may be prescribed by the Engineer-in-Charge and whether or not due to the fault of the contractor shall be at the expense of the contractor. Filling for such excess excavation or over excavation shall be at the expense of the contractor.

(d) **Measurement for payment:**

Excavation for structures will be measured for payment, for box cutting with vertical sides of foundation dimensions. The contractor will have to make his own arrangement for shoring, strutting, provision of adequate slopes for the sides to prevent slips etc., and no separate charge will be paid for any incidental charges arising either during excavation of foundation or construction of the structure.

(e) **Payment:**

Payment for excavation for structures will be made at the unit price per cubic meter bid therefor in the Bill of quantities for excavation for structures. The unit price bid in the bill of quantities for excavation for structures shall include the cost of all labour and materials for coffer dam and other temporary construction, of all pumping and dewatering, of all other work necessary to maintain the excavation in good order during construction, of removing such temporary construction where required and shall include the cost of disposal of the excavated material.

2.2. BACKFILL:

2.2.1. Back Fill Around Structures:

(a) **General:**

The item of the schedule for backfill around structures including pipe portions of structures includes all backfill required to be placed under these specifications.

(b) **Materials:**

The type of material used for backfill, the amount thereof, and the manner of depositing the material shall be subject to approval of Engineer-in-Charge. In so far as practicable backfill material shall be obtained from material removed in required excavations for structures. But when sufficient suitable material is not available from this source, additional material shall be obtained from approved borrow-areas. The borrow pit excavation shall be in accordance with clause-9.1 to 9.3 of I.S 4701-1982.

Backfill material shall contain no stones larger than 80 millimeters in diameter. If the excavation for the foundation of the structure is in swelling soils, a layer of cohesive non-swelling soil conforming to I.S..9451-1980 should be interposed between the swelling soil of the structure and compacted to atleast 95% standard proctors density.

(c) **Placing Backfill:**

Backfill shall be placed to the lines and grades shown on the drawings as prescribed in this paragraph or as directed by the Engineer-in-Charge. All backfill shall be placed carefully and spread in uniform layers not exceeding 150 mm, so that all spaces about rocks and clods will be filled. Each layer shall be watered and well compacted before the succeeding layer is laid, care being taken not to disturb the constructed structure. Backfill shall be brought up as uniformly as practicable on both sides of walls and all sides of structure to prevent unequal loading. Backfill shall be placed to about the

same elevation on both sides of the pipe positions of the structures to prevent unequal loading and displacement of the pipe.

(d) **Measurement and Payment:**

Excavation refill required to be placed about structures that is within the pay line limits for excavation for the structures, will be measured in place for payment as backfill about structure provided that where the contractor elects not to excavate material which is outside the limits of the actual structure or pipe, but within the pay line limits of excavation, all such material will be included in the measurement for payment of backfill.

The unit price bid therefor in the Bill of quantities for excavation of foundation of structure shall include cost of backfilling about the structure upto ground level. No separate payment will be made for backfill of foundation.

Refill of excavation performed outside the established paylines for excavation for structures shall be placed in the same manner as specified for the adjacent backfill and such refill shall be placed at the expense of the contractor.

3. STRUCTURAL WORKS

3.1. Scope Of Work

The work consists of furnishing all necessary labour, material, tools & tackles, plants required for construction of Recharge pits etc. The Contractor will have to construct all the approach roads upto the site of work, fencing of site etc. The Contractor will have to carry out the soil investigation test at required locations & to furnish the information to the Construction Manager for final approval.

3.2. Material

All materials and their source of supply before bringing to the site, must be approved by the Construction Manager & any material not confirming to standard specifications shall be removed from the site of work. All approved samples must be deposited in the office of the Construction Manager before placing orders for the materials with the suppliers. The materials brought on to the site shall conform to the samples already approved. Fresh samples may be deposited with the project developers whenever the type and source of material changes for approval by the Construction Manager.

3.3. Quality Control And Quality Assurance

The work is to satisfy high structural soundness and aesthetic finish. Quality control measures, will form the backbone for the high quality assurance for the components as also the finished work.

At the site level Contractor is to arrange the materials, their stacking / storage in appropriate manner ensuring the quality. Contractor shall provide equipment / manpower to test continuously the quality of water, cement, composition and grading of coarse aggregates, grading of fine aggregate, slump of concrete, bulkage of sand, temperature measurement etc. The tests shall be conducted continuously and results of

tests maintained in a regular way. In addition, he shall keep tools and equipment for checking the levels, evenness of surface, Verticality, correct slope, hardness of surface etc. The Contractor shall at his expense provide cube moulds for concrete cubes, and shall have testing apparatus for testing the cement setting time and strength of cubes, and shall maintain the same properly for testing cement/concrete samples etc. for their quality and soundness.

The Construction Manager shall be free to carry out tests elsewhere as may be considered necessary by him from time to time. The Contractor shall provide the samples and labour for collecting the samples. Nothing extra shall be payable to the Contractor for the samples or for the collection of the samples.
The test shall be conducted at the site laboratory that may be established by Contractor or at any other standard laboratory selected by Construction Manager in & around Delhi .The Contractor shall transport the samples to the laboratory for which nothing extra shall be payable. In case the Contractor failing to arrange transportation of the samples in proper time the Construction Manager shall have them transported and recover twice the actual cost from the Contractor's bills.

All charges in connection with testing shall be borne by the Contractor.

The Contractor or his authorised representative may witness the testing. Whether witnessed by the Contractor or not, the Test results shall be binding on the Contractor.

4. DESIGN MIX CONCRETE

All cement concrete designated by strength shall be treated as design mix concrete. The design mix concrete shall conform to the grades specified on the drawings. The aggregate and cement shall be measured by weight in an approved weigh batching equipment. Water shall be measured electronically.

The design mix concrete shall conform to minimum cement content as 280 kg/cum with fly ash and maximum water cement ratio as 0.45 for M25.

It is specifically highlighted that in addition to the above requirements, the max. cement content shall be limited to 450 Kg/Cum for basement slab and wall and all water retaining structures.

The Contractor shall be responsible for designing the mixes of the specified performance to suit the degree of workability and characteristic strength required for the various parts of the works. The mix designs shall be evolved in a full-fledged concrete laboratory approved by the Construction Manager. The mix designs shall be finalised during the mobilization period of the Contract. The Contractor shall design alternative mixes for use in both thin and narrow sections and thick sections. Special mixes using finer aggregates shall be designed for infilling pockets and narrow spaces and for regions of congested reinforcement. Special mixes containing admixtures shall also be designed where workability requirements dictate their use.

The min/max cement content for design mix concrete shall be maintained as per the amounts given in Table - C. Even in the case where the quantity of cement required is higher than that specified above to achieve desired strength based on a approved mix design, nothing extra shall become payable to the Contractor.

For design mix concrete, the mix shall be designed according to IS: 10262 and SP:23 to provide the grade of concrete having the required workability and characteristic strength not less than appropriate values given IS:456. The design mix shall in addition be such that it is cohesive, does not segregate, and should result in a dense and durable concrete and capable of giving the finish as specified. For liquid retaining structures, the mix shall also result in watertight concrete. The Contractor shall exercise great care while designing the concrete mix and executing the works to achieve the desired result.

4.1. Water Cement Ratio and Workability

The quantity of water added to the cement and aggregates during mixing should be such as to produce concrete having sufficient workability to enable it to be worked into the corners of the shuttering, around reinforcement and to be properly compacted. Reference may be made to IS: 456, clause 4, for guidance with respect to the workability.

Due account shall be taken of the variation of moisture content, within any consignment of aggregate or any variations due to variations due to watering, exposure to rain or drying weather. The Contractor shall carry out regular moisture content tests on stacked aggregates and submit the results to the Construction Manager as desired by him.

In case of nominal mix concrete the maximum value of water cement ratio shall be 0.68 and in the case of design mix concrete the water cement ratio shall be determined by the mix design.

The Contractor shall exercise particularly tight control of the water content for fair faced concrete the colour of which is sensitive to small variations of water in the mix.

When a suitable water cement ratio has been determined and agreed with the Construction Manager, it shall be maintained throughout the corresponding part of the works. Approved tests shall be undertaken periodically by the Contractor to satisfy the Construction Manager of the maintenance of the consistency. However, the amount of water added to a mix other than fair faced concrete may be reduced below the agreed design with the consent of the Construction Manager if the Contractor is able to demonstrate that such reduction is in consistence with producing concrete of the required workability and characteristic strength.
The Contractor shall regularly test the concrete for slump test and provide complete facilities for the same site.

Unless otherwise permitted, the slump at the point of concreting as measured in accordance with the methods laid down IS: 1199 shall be in the range of 75 to 100 mm.

4.7 Requirement Of Designed Mixes

The measure of quality control exercised by the Contractor in the manufacture of the concrete at site shall be the standard deviation derived from the analysis of cube results tested in accordance with IS: 516. The cubes shall be prepared from the point of discharge of the concrete mixer as per IS: 1199.

The sampling, strength test and acceptance criteria shall be as per IS: 456, clauses 14 and 15, except as specified in these specifications.

The Contractor shall design each concrete mix to achieve a target mean strength greater than the required characteristic strength. In the first instance the Contractor shall assume a standard deviation as suggested in Table 6 of IS: 456.

Should the further analysis of the next 100 cubes test results of concrete of nominally similar proportions of similar materials and produced over a period not exceeding twelve months by the same plant under same supervision show the standard deviation to be less than that indicated in IS: 456, the Contractor may redesign the mix assuming a standard deviation as suggested in Table 1, column II of IS: 10262 and shall submit the details of the proposed new mix proportions to the Construction Manager for his considerations.

If at any time the statistical minimum strength of the concrete defined in the acceptance criteria in IS: 456, clause 15 falls below the characteristic strength, the Contractor shall redesign the mix. Details of the new mix proportions shall be submitted to the Construction Manager for his approval and the Contractor's supervision and degree of control over mix proportions shall be improved if required

4.8 Approval Of Designed Mixes

The Contractor shall submit to the Construction Manager the details of design mix for comments with the sufficient evidence based on trial mixes, that for the grade of concrete, the intended workability, the proposed proportions and the method of manufacture will produce concrete of the required quality. Evidence of conformance to proportions of chloride and sulphate contents shall also be submitted.

The Contractor shall obtain from the Construction Manager his written approval on the mix design for each grade of concrete before any concrete of that grade is placed in the works.

For each grade of concrete, three separate batches of concrete shall be made by the Contractor using materials of quality of the proposed supply and under full scale to site.

The workability of each of the trial batches shall be tested and six specimen preliminary test cubes shall be produced from each trial batch. Three cubes of each set shall be tested at 28 days and results submitted to the Construction Manager.

The trial mix proportions for each grade of concrete shall be considered satisfactory if the mean strength of the 9 cubes tested at 28 days exceeds the specified characteristic strength by between 0.6 and 1.2 times in current margin and the least cube strength is greater than the specified characteristic strength and the Contractor has satisfied that the concrete contains the correct amount of cement and the free water cement ratio is below the maximum specified value.

Following approval by the Construction Manager on the trial mix proportion should the Contractor wish to have substantial changes in the materials or in the proportions of the materials to be used in a mix, the Construction Manager will require fresh trial mixes to be made and their results submitted for the comments prior to such materials or proportions being adopted by the Contractor.

5. Concrete Testing

5.1 Test Cubes

The strength of concrete either in assessing the availability of the trial mixes or when placed in the works shall be determined from 150 mm cubes made, cured, stored, transported and tested in accordance with IS: 516.

Test cubes shall be made as, where and when the Construction Manager may require. The moulds for making cubes will be as per IS: 10086.

Test cubes shall be made under the direct supervision of competent persons appointed by the Contractor to supervise all stages of the manufacture and testing. He should be well conversant with the concept. Cubes shall be made by the Contractor in the presence of the Construction Manager from fresh concrete at the point of discharge from mixer and the Contractor should have suitable facilities in the form of a site laboratory with protection as agreed with or approved by the Construction Manager for storing and curing of the test cubes.

Test cubes shall be marked and dated and for the grade and the part of the works in concrete they represent has been placed so that these can be specified.

The Contractor shall also provide complete facilities at site for determining the crushing strength of the concrete cubes. The compression-testing machine shall have a minimum capacity of 1500 KN. and be of the electrical-cum-hand-operated lever.

5.2 Works Tests

When concrete of a particular grade is first used in the works, three cubes shall be taken from three separate batches testing each at the first 7 days of using that grade. Of these 9 days made daily, three cubes (each cube representing concrete made in a different batch) shall be tested at 7 days and the remaining six cubes shall be tested at 28 days. Each set constituting three cubes shall be termed as a "Sample" in accordance with IS: 456 clause 14.4. For every subsequent 15 cum concrete or for every day's concreting be it less in volume, samples shall be made for each grade of concrete one of each will be tested at 7 days and the other at 28 days.

If the concrete strength determined from 28 days samples does not meet the acceptance criteria as per clause 15 of IS: 456, the materials and/or their proportions for that made shall be modified by the Contractor to the satisfaction of the Construction Manager. In addition the Contractor shall at his own expense take remedial action as the Construction Manager may consider necessary with respect to the concrete placed for the portion of the works represented by the set of cubes, which have failed to meet the acceptance criteria.

5.3 Weigh Batching

All concrete ingredients except water for controlled concrete shall be weigh batched. The weigh batches shall be of approved type and manufacture.

Batching shall be of an accuracy of not less than 1/2 kg and the weigh batching equipment shall have an accuracy of plus or minus 3 percent. The weigh batchers shall be tested for accuracy of calibration before commencement of work on each day.

Water should be measured electronically in the controlled proportions as per the design mix requirement.

5.4 Concrete Mixing

All concrete, whether nominal mix or design mix, shall be mixed in a mixer for the minimum time necessary to produce adequate quality and uniform distribution of the materials. In general, it is good practice to feed a small amount of water first followed by the solids material suitably fed uniformly and simultaneously into the mixer. If possible, the greater part of the water should also be fed during the same time, the remainder of the water being added after mixing of the solids. The mixer shall be of approved type and manufacture and as per IS: 1791 and IS: 4925.

Allowance shall be made for the moisture content of the aggregates when calculating the amount of water to be added for each mix.

Precautions are necessary during hot weather concreting as indicated in IS: 7861, Part I. these may consist of dampening sub-base and forms.

Temperatures, erecting sunshades, reducing time between placement of concrete and start of curing, and minimising evaporation particularly during the first few hours subsequent to the pouring of concrete. The temperature of the aggregate, water and cement when added to the mixer shall be such that the temperature of the concrete is less than that indicated below in Table. For the indicated relative humidity.

Assumed Wind Velocity	Concrete temperature in degree centigrade	Relative Humidity in %
10KM/HOUR	38	40
10KM/HOUR	33	20

5.5 Construction Joints And Pour Strips

Construction joints shall be made only where shown on the drawings. Where the Contractor wishes to form joints in concrete other than those shown on the drawings, he shall submit his proposals giving the position of form, treatment of such joints to the Construction Manager. No separate payment shall be made for making construction joints and pour strips.

Pour strips in basement raft and retaining walls shall be provided after a gap of three weeks minimum.

Vertical construction joints shall be formed against a stop board and horizontal construction joints shall be level.

Except where shown otherwise on the drawings, reinforcement shall continue through construction joints.

The specifications of construction joints shall conform to Indian Roads Congress Special Publication No.33, Appendix I.

As soon as possible after the form work has been struck for vertical joints or after the concrete has set in horizontal joints, the surface laitance of the hardened concrete on the face of the joint shall be removed to expose the coarse aggregate in such a manner that the loosened particles of aggregate and damaged concrete are not left on the surface. The exposed face shall be swept clean of foreign matter and laitance. Feathered construction joints will not be permitted.

5.6 Contraction Joints

Contraction joints where required will be shown on the drawings. No separate payment shall be made for making Contraction joints.

Contraction joints shall not be hacked, wetted or mortared before concrete is placed against them.

5.7 Separation Joints

Separation joints shall be provided where shown in the drawings or as directed by the Construction Manager. They shall be constructed with an initial gap between the adjoining parts of the width specified in the drawings.

The Contractor shall ensure that no debris is allowed to enter separation joints.

5.8 Water Bars

Where water bars are shown on the drawings, the joints shall be incorporate PVC water bar such as "Fixostop" or approved equivalent conforming to Central Water Commission Standards (Annexure 1) . The water bars shall be complete with all the necessary moulded or prefabricated intersection pieces assembled in accordance with the drawings with bends and butt joints in running lengths made by welding with an electrically heated jig.

Jointing and fixing of water bars shall be carried out strictly in accordance with the manufacturer's instructions. Refer Table below.

TYPE OF JOINTS	'FIXOSTOP' TYPE
Four strips in raft	230 kV
Horizontal construction joints between raft & retaining wall	240 RS
Out side face of pour strips in retaining walls	230 KD
Expansion joints in retaining walls	Fixocap - 38
Joints between basement and temporary retaining wall panels	230 KD
Horizontal construction joint between retaining wall and upper basement floors	240 RS
Construction joint between raft	230 KD

Water bars shall be appropriate type & approved by the Construction Manager.

The water bars shall be installed so that they are securely held in their correct position during the placing and impacting of the concrete. Necessary supporting devices to prevent sagging of the water bars shall be provided.

Where reinforcement is present adjacent to water bars, adequate clearance shall be left between the reinforcement and water bars to facilitate compaction of the concrete.

Double headed nails may be used at the edge of the water bar outside the line of the external grooves for fixing purpose, but no other holes shall be permitted through the water bar.

5.9 Inserts

The Contractor shall fix all necessary inserts such as steel plates, pipe sleeves, bolts etc. and make provision of holes, pockets, dowels etc. in the form work to enable subsequent fixing of supports, brackets, ceilings, precast members etc. As indicated on the drawings, in the schedule of quantities or as required by the Construction Manager, in- situ concrete inserts shall be as per IS: 1946 and of a type approved by the Construction Manager.

Nothing extra over and above the provision as per the priced schedule of quantities shall be paid to the Contractor for placement of inserts in position before concreting.

With the prior agreement of the Construction Manager, expansion type fasteners may be used by the Contractor in hardened concrete.

The inserts shall be properly protected from damage, slurry leakage, etc. by methods such as applying grease, wrapping with burlap, plugging with hemp cloth etc. to the satisfaction of the Construction Manager.

5.10 Concrete In Slopes

The Contractor will ensure proper compaction of concrete at places of slope in concrete like raft near lift pits, ramps, staircases etc. No extra payment shall be made for such concrete placed & maintained in slopes.

5.11 Cracks / Infirmities

If any cracks or infirmities develop in the concrete construction, which in the opinion of the Construction Manager may be detrimental to the strength of the construction, the Contractor at his own expense shall test the structural element in question. If under these test loads the cracks or infirmities develop further the Contractor at his own expense shall dismantle the construction, cart away debris, replace the construction and carry out all consequential work there to at no extra cost to the satisfaction of the Construction Manager.

If in the opinion of the Construction Manager the cracks or infirmities are not detrimental to the stability or durability of the construction, the Contractor shall grout the cracks or infirmities with epoxy or other suitable material and repair / replace the infirmities at his own expense and risk. He shall also make good all other building works such as plaster, moulded surface, finish of floors, roofs, ceiling etc. which in the opinion of the Construction Manager have suffered damage either in appearance or stability owing to such cracks or infirmities.

The scheme of repair work shall be subject to the approval of the Construction Manager and carried out to the satisfaction of the Construction Manager. The decision of the Construction Manager as to the extent of the liability of the Contractor in the above matter shall be final and binding on the Contractor.

5.12 Curing And Protection

Curing of concrete shall be complete and continuous using water that is free of harmful amounts of deleterious materials that may attack, stain or discolour the concrete.

Immediately after compaction and completion of any surface finishes, the concrete shall be protected from evaporation of moisture by means of polyethylene sheets, wet

hessian or other material kept soaked by spraying. As soon as the concrete has attained a degree of hardening sufficient to stand-with surface damage, moist curing shall be implemented and maintained for a period of at least 15 days after casting.
Method of curing and their duration shall be such that the concrete will have satisfactory durability and strength and members will suffer a minimum distortion, be free from excessive efflorescence and will not cause by its shrinkage undue cracking in the works.
The top surface of slabs and other horizontal surfaces shall be cured by impounding water in cement mortar bunds. Deeply sloping and vertical formed surfaces shall be kept completely and continuously moist prior to and during the striking of form work by applying water to the top surfaces and blowing it to pass down between the form work and the concrete.
The Contractor shall give careful consideration to the curing methods and conditions for fair faced concrete components which are specified to have exposed concrete finish shall receive the same curing treatment. Moreover, water used for curing shall be of such quality so as not to discolour the concrete.
All fair faced concrete shall be protected from damage from the time of striking the form work. All edges and surfaces of such concrete shall be protected from chipping using notched timber corner pieces or other suitable covers which shall be maintained in place until the completion of the works.
The Contractor shall be responsible for ensuring all fair faced concrete free of stains from concrete materials and shall clean all such staining as may occur at his own cost as soon as possible to the satisfaction of the Construction Manager.
Approved non-wax base curing compounds may be used in lieu of moist curing only with the permission of the Construction Manager. Such approved compounds shall be applied to all exposed surfaces of the concrete as soon as possible after the concrete has set.

5.13 Testing Concrete Structures For Water Tightness And Acceptance Criteria

5.13.1 Acceptance Criteria

Any concrete work shall satisfy the requirements given below, as may be applicable individually and collectively for all to be acceptable.

The Construction Manager's decision as to the acceptability or otherwise of any concrete work shall be final and binding on the Contractor.

For work not accepted, the Construction Manager may review and decide whether remedial measures are feasible to render the work acceptable. The Construction Manager shall in that case direct the Contractor to undertake and execute the remedial measures. The Contractor shall expeditiously and effectively implement these. Nothing extra shall become payable to the Contractor by the owner for executing such remedial measures.

5.13.2 Grouting

Grout shall be provided as specified on the drawings. The proportion of standard grout shall be such as to produce a floatable mixture consistent with minimum water content and shrinkage. Surfaces to be grouted shall be thoroughly roughened and cleaned. All structural steel elements to be grouted shall be cleaned of oil, grease, dirt

etc. The use of hot strong caustic solution for this purpose will be permitted. Prior to grouting, the hardened concrete shall be saturated with water and just before grouting water in all pockets shall be removed. Grouting once started shall be done quickly and continuously variation in grout mixes and procedures shall be permitted if approved by the Construction Manager. The grout proportions shall be limited as indicated below in Table below:

USE	GROUT MIX	MIX PROPORTIONS	W/C RATIO
A) Fluid mix	Under 25 mm	1 Part port land cement to 1 part sand	0.44
B) General mix	25 mm and over but less than 50 mm	1 part port land cement to 2 parts sand	0.53
Stiff	50 mm and	1 part port land	0.53
Mix	Over	Cement to 3 parts sand	

Non-shrink grout where called for in the schedule of quantities, or specified on the drawings shall be provided in strict accordance with the manufacturer's instructions / specifications on the drawings.

5.13.3 Load Testing On Completed Structures

During the period of construction or within the defect liability period the Construction Manager may at his discretion order. The load testing of any completed structure or any part thereof if he has reasonable doubts about the adequacy of the strength of such structure for any of the following reasons:

A) Results of compressive strength on concrete test cubes falling below the specified strength.
B) Premature removal of formwork.
C) Inadequate curing of concrete.
D) Over loading during the construction of the structure or part thereof.
E) Carrying out concreting of any portion without prior approval of the Construction Manager.
F) Honey combed or damaged concrete, which in the opinion of the Construction Manager is particularly weak and will affect the stability of the structures to carry the design load, more so in important or critical areas of the structure.
G) Any other circumstances attributable to alleged negligence of the Contractor, which in the opinion of the Construction Manager may result in the structure or any part thereof being of less than the expected strength.

All the loading tests shall be carried out by the Contractor strictly in accordance with the instructions of the Construction Manager, IS: 456 and as indicated hereunder. Such tests should be carried out only after the expiry of minimum 28 days or such longer period as directed by the Construction Manager.

The structure should be subjected to a superimposed load equal to 1.25 times the specified superimposed load considered in the design. This load shall be maintained for a period of 24 hours before removal. During the test, struts strong enough to take the whole load shall be placed in position leaving a gap under the members as directed.

The deflection due to super imposed load shall be checked by sufficient number of approved deflectometers capable of reading upto 1/500 of a cm and located suitably over the structure as directed by the Construction Manager. The method of test loading and acceptance criteria shall be as per clause 16 of IS: 456 for reinforced concrete.

If the load test results are unacceptable the part of the work concerned shall be taken down or cut out and constructed to comply wit the specifications. Other remedial measures may be taken to make the structure secure at the discretion of the Construction Manager. However, such remedial measures shall be carried out to the complete satisfaction of the Construction Manager.

All costs involved in carrying out the load tests and other incidental expenses thereto shall be borne by the Contractor regardless of the results of the tests. The Contractor shall take down or cut out and reconstruct the defective work or shall make the remedial measures instructed, at his own cost.

In addition to the above load tests, non-destructive test methods such as core test and ultrasonic pulse velocity test shall be carried out by the Contractor at his own expense if so desired by the Construction Manager. Such tests shall be carried out by an agency approved by the Construction Manager and shall be done under their guidance using only recommended testing equipment. The acceptance criteria for these tests shall be actually agreed between the Construction Manager and the Contractor.

5.13.4 Supervision

All concreting work shall be done under strict supervision of the qualified and experienced representatives of the Contractor. The Contractor's Construction Manager and supervisors who are in-charge of concreting work shall be skilled in this class of work and shall personally supervise all the concreting operations.

Special attention shall be paid to the following:

Proportioning, mixing, and quality testing of the materials with particular control on the water - cement ratio.

Laying of materials in place and through compaction of the concrete to ensure solidity and freedom from voids and honeycombing.

Proper curing for the requisite period

Position of reinforcement and that of inserts are not distributed during concreting and consolidation by vibration.

5.13.5 Quality Assurance And Quality Control

The Construction Manager reserves the right to make changes in the mix proportions including increased cement content or/and a change in the Contractor's control procedure, should the quality control during progress of the works proves to be inadequate in his opinion.

All the concrete work shall be true to level, plumb and square within the acceptable tolerance. The corners, edges and arises in all cases shall be finished properly and carefully.

The Contractor shall prepare a detailed quality assurance and quality control manual for his staff and obtain approval of the same from the Construction Manager. The

manual shall contain detailed instructions of all aspects of quality assurance and quality control for the entire construction work.

5.13.6 Tolerances

The acceptable tolerances for all concrete construction and materials shall be as per CPWD specifications & relevant IS Codes with latest revisions.

5.13.7 Measurement For Payment

In general, the measurement shall be governed under IS: 1200 (Part I-XII) with latest revisions. Dimensions shall be measured nearest to 1 cm. except for the thickness of slab, which shall be measured to the nearest 0.5 cm. The areas shall be worked out to the nearest 0.01 sq. m.
No deduction shall be made for the following:
Opening up to 0.1 sq. In calculating area opening up to 0.1 sq. the size shall include the thickness of any separate lintels or stills. No extra labour for forming such opening or voids shall be paid for.

The volume occupied by reinforcement and inserts.

The volume occupied by water pipes, conduits, and anchor bolts etc. not exceeding 25 sq. cm. Each in cross-sectional area. Nothing extra shall be paid for leaving and finishing such cavities and holes.
Measurement shall be taken before any rendering is done to the concrete members. The measurement will not include rendering.

6. Form Work

6.1 General

The term "Formwork" or "Shuttering" shall include all forms, moulds, sheeting, shuttering, planks, walers poles, posts, shores, struts and strutting, ties, uprights, walling, steel rods, bolts, wedges and all other temporary supports to the concrete during the process of pouring & setting. The formwork for all precast works shall be of steel or fibreglass. Shuttering may be provided with wooden battens inside to give the desired exposed finish in precast members. The formwork for cast in situ reinforced concrete may be of timber or steel. However, steel shuttering shall be used for columns, beams and slabs as specified by the Construction Manager.

A sufficient number and size of walers shall adequately support all shuttering planks with supporting members to ensure rigidity of form during concreting to avoid delay and unnecessary rejection of forms. The Contractor shall obtain the approval of the Construction Manager for the design of the forms and the type of timber used for preparing actual samples of different types of about 10-sq. m. for their satisfaction before fabricating forms.

Struts, braces, ties and props shall be of adequate size and number to support the shuttering rigidly placed during concreting, and shall be strong enough to with stand vibrations. Joints in props shall not be allowed.

If formwork is held together by bolts and wires, these shall be so fixed that no iron shall be exposed on surface against which concrete is to be laid. The Construction Manager may at his discretion allow the Contractor to decide the location and size of such tie-bolts but the holes left in the concrete by these tie-bolts is shall be filled as specified by them at the Contractor's expense.

6.2 Type of shuttering

It is intended to use in this job the specified type of shuttering as below:

6.3 Planks Shuttering

All facing form work to come in contact with concrete shall consist of:-

a) Laps jointed or tongue and grooved. Unplained bandsawn planks not less than 4 cm. thick and more than 18 cm. wide unless other wise directed by the Construction Manager.
b) Unplained bandsawn planks of 1.25 cm. to 2.0 cm. thickness mounted on 6 mm thick ply wood board as per relevant drawings and the instructions of the Construction Manager.

6.4 Ply Wood Shuttering

The Contractor shall provide 19-mm thick shuttering quality plywood of approved make at such locations as called for by the Construction Manager. The joints in plywood shuttering shall be located as shown in the relevant drawings or as directed by the Construction Manager.

6.5 Steel Shuttering

The Contractor shall provide steel shuttering for such locations as called for and as per the relevant drawings and the directions of the Construction Manager.

Provision shall be made in the shuttering for beams and columns for a pothole of convenient size so that all extraneous materials that may be collected could be removed before concreting.

6.6 Camber

Forms and formwork shall be cambered as described below unless other wise shown or specified.

Type of member	Compression steel as % of tensile steel	Camber co-efficiency
Simple Span	0% 50%	0.066 0.037
Continuous	0%	0.032
Restrained span	50%	0.020
Cantilever	0% 50%	0.086 0.046

Camber in Centimetres (K * L * 2.54 / D)

Where K: Camber co-efficient
L: Length of member in meter
D: Depth of member in meter

Care shall be taken that all formwork is set in plumb and true to line and level & camber where required and as specified by the Construction Manager without twists.

All shuttering shall be adequately strutted, propped to the satisfaction of the Construction Manager to prevent deflection under the dead weight of concrete and superimposed live load of workmen and materials. In addition, plant formwork shall be so arranged as to permit removal without jarring the concrete, wedges clamps & bolts shall be used wherever practicable instead of nails.

Timber surfaces of forms in contact with concrete shall be oiled with shuttering oil of specified quality without pigment or colouring of the quality approved by the Construction Manager. The use of oils, which darken the surface of the concrete, shall not be allowed. Oiling shall be done before reinforcement has been placed and care shall be taken that no oil comes in contact with the reinforcement while it is being placed in position. The formwork shall be kept thoroughly wet during the concreting and the curing.

Immediately before concreting is commenced, the formwork shall be carefully examined to see that all dirt, shaving, saw dust and other refuse has been removed by brushing, washing, and cleaning it. Openings shall be provided in all form of work to facilitate cleaning.

All formwork erected shall be approved by the Construction Manager or his authorised representatives, before concreting is started.

6.7 Removal Of Form Work

Unless other wise permitted in writing by the Construction Manager, the minimum period for keeping form work in position shall conform to the Indian Standard Specifications and shall be as follows:

Under side of beams, joints	21 days
Under side of slabs	10 days
Lintels, walls openings	3 days
Sides of Slabs and beams	3 days

The Construction Manager may vary the above period if he considered it necessary for structural stability immediately after the forms are removed. The area shall be cleaned with a jet of water and a soft brush.

6.8 Stripping Of Formwork

Formwork shall be removed carefully without jarring the concrete and curing of the concrete shall be commenced immediately.

6.9 Reuse Of Forms

The Contractor shall not be permitted re-use of shuttering of ply wood form work brought new on the works for more than 14 times for exposed concrete. Reuse shall be permitted only if forms are properly cared for, stored, and adequately repaired after each use. The Construction Manager may in their absolutely discretion order removal of any forms they consider unfit for use in the works order rejection of any form they consider unfit for use.

6.10 Hacking

Immediately after removal of forms, the concrete surface intended to be either plastered or finished shall be roughened with brush hammer or with chisel and hammer as directed by the Construction Manager or the Architects to make the surface sufficiently coarse and rough to provide application for plaster.

No extra payments shall be made to the Contractor for such work on concrete surface after removal of the formwork.

No payment shall be made for temporary formwork used in concreting, not for formwork required for joints or bulkheads. In floor or elsewhere, whether such joints are to be covered later with concrete, mastic, or other materials.

6.11 Pockets And Openings:

Where boxes, pockets or openings are required (not exceeding 0.1 sq. m.) to be formed in the concrete, no deduction shall be made for the area of box or pockets in measuring the area of concrete surface shuttered. In other words, the area of shuttering shall be reckoned as if the box of pocket or openings were not present.

However, on measuring the concrete quantity, the volume of the box or pocket shall be deducted. If the area of box, pocket or openings against the shuttered faces exceeds 0.1 sq. m. It shall be paid not as a box or pocket or opening but as form work at the rates for form work.

No extra payment shall be made for holes to be made in the formwork for inserting electrical conduit hooks for fans etc.

6.12 General Direction for Form Work

Joints in formwork shall be designed to prevent leakage not only between individual elements forming the panels but also from the horizontal vertical junctions between the panels themselves.
Suitable jointing arrangements and recommendations shall be made in consultation with Construction Manager.
Formwork shall be strong enough to with stand normal handling conditions and should not deform under pressure exerted by the concrete.
Formwork shall be of sufficient and uniform stiffness to prevent excessive variation in vibration characteristics over the area of any panel

6.13 Jointing Faults

Lose of alignment from damaged formwork, poor design, inadequate or excessive tolerances or leakage at joints causing grout loss discoloration or colour difference between different stages of the work. In addition, poor compaction around the corners and inserts shall not be permitted & Contractor will have to rectify such works without any extra claim.

6.14 Stop Ends

Stop ends, as vertical joints in length of formwork shall be carried out as per the instructions of Construction Manager.

6.15 Ties

Tie bolts shall be strong enough to resist inadvertent bending, which can prevent easy with drawl.

6.16 Bolt Holes

Pattern of bolt holes and fixing shall be as for Construction Manager's design and instruction.

6.17 Cleanliness

When not in use, formwork materials shall always be kept under cover in clean area to minimise the possibility of contamination. Formwork shall always be cleaned on stripping and oiled before erection or re-erection. After erection, the formwork shall be covered to prevent exposure to rain, which might remove the mould oil or wash rust scale into prepared surface. After formwork is in place, hosing down with water shall not clean it. Any further cleaning shall be done with an air hose. Care shall be taken to keep the surface clean during and subsequent steel fixing and form work operations. Dirt and other materials shall not be allowed to enter the section to be cast.

6.18 Exposed Concrete Work

Exposed concrete work shall have original fair face finish of the concrete surface without rendering or plastering. The concrete surface shall be absolutely free from honeycombing exposed off sets. Superfluous mortars cement slurry and foreign matters. The formwork shall be assembled in such a way as to facilitate removal of its parts in proper sequence without any damage to the exposed cement surface and corners etc. No concrete surface shall be rendered or painted with cement or other wise. The Contractor shall keep skilled staff for special care and supervision to check the formwork and concreting so that every member is made true to its size, shape, level and plumb preventing any deformation, sag, bulges etc. It shall have even and smooth contact surfaces and its joints shall be sufficiently watertight or have tongue and groove joints if required as shown on the drawings to prevent leakage of slurry or water. The formwork shall be oiled thoroughly to prevent absorption of water from fresh concrete.

The cambers bevelled edges and mouldings shall be made in the form it self. Centering used for supporting formwork shall be of tubular steel. It is not intended to use inter face pattern of formwork. However, the sizes and locations of joints shall have prior approval of the Construction Manager of before proceeding with the laying

of concrete. The Contractor shall also take precautionary measures to prevent any breaking or chipping of concrete until the building is handed over. No payment for surface covered under false ceiling, skirting, veneering etc. shall be made under this item. No extra claim on account of making grooves, drip courses sands, etc. shall be entertained.

6.19 Steel Shuttering

Steel shuttering should be made of 4 mm thick black steel sheet stiffened with angle iron frame of 40 x 40mm. The plates must be of suitable sizes and approved by the Construction Manager as shown on the drawings. Before using the shuttering the same shall be coated with a standard quality form oil without any pigment or colour. No other substitute shall be permitted. Those truly vertical and horizontal joints as shown in the relevant drawings are obtained. In order to obtain shuttering lines, gaps between the adjacent plates must be suitably adjusted. The surface concrete after removing shuttering shall be free from honeycombing, off sets, superfluous mortar, cement slurry, other foreign matter to result in the required finish and natural and original face of cement concrete without rendering with cement plaster when bolts used for holding the shuttering cannot be pulled out. The same bolts shall be left in position and the projecting end must be cut flush with the exposed surface skirts and steel shuttering used in the form work for obtaining exposed surface shall not be used for more than ten times. In order to obtain exposed concrete work of a uniform colour it shall be necessary to ensure that the sand used throughout the structure shall conform to a uniform approved colour.

7. STEEL REINFORCEMENT

7.1 General

This section covers the requirements for providing, fabricating, delivering & placing, anti corrosive treatment of steel reinforcement for all types of concrete work. Related work specified elsewhere

7.2 Cast-In-Place Plain And Reinforced Concrete

The more important codes, standards and publications applicable to this section are listed hereinafter. In all cases, the latest issue/revision including the amendments up to the date of issue of tenders shall be applicable.

In case of any discrepancy or conflict between the standard codes, standards and publications on the one hand and "specific technical requirements" on the other, the latter shall govern.

IS: 280	Mild steel wire for general Construction managing purposes
IS: 432	Part I mild steel and medium tensile steel bars. Part II hard drawn steel wire.
IS: 456	Code of practice for plain and reinforced concrete.
IS:314	Parts I & II electrodes for metal arc welding of structural steel
IS: 816	Code of practice for use of metal arc welding for general construction in mild steel
IS: 1566	(Part I) specifications for hard-drawn steel wire fabric for concrete reinforcement

IS: 1786	Specification for high strength deformed steel bars and wires for concrete reinforcement
IS: 2502	Code of practice for bending and fixing of bars for concrete reinforcement
IS: 2629	Recommended practice for hot-dip galvanising of iron and steel.
IS: 2751	Code of practice for welding of mild steel plain and deformed bars used for reinforced concrete construction
IS: 4759	Hot-dip zinc coating on structural steel and other allied products.
IS: 5525	Recommendations for detailing of reinforcement in reinforced concrete works
IS: 9417	Recommendations for welding cold-worked steel bars for reinforced concrete construction.

7.3 Bar Bending Schedule

Before commencement of fabrication of any steel reinforcement, the Contractor shall submit the bar bending schedule to the Construction Manager for his approval.
Steel reinforcement used shall be either of the following types:

A) Mild steel of grade 1 tested quality conforming to IS: 432 - Part I
B) High strength deformed steel bars tested quality conforming to IS: 1786.
C) Hard drawn steel wire fabric conforming to IS: 1566

All steel shall be supplied free of cost by the owner.

7.4 Binding Wire

Binding wire shall be black annealed steel wire informing to IS: 280 and minimum 16 gauge, except for galvanized enforcement for which the wire shall be galvanised steel.

7.5 Welding Electrodes

Electrodes used for welding of steel bars shall be ordinary mild steel grade electrodes conforming to IS: 814 and shall be of the best quality approved by the Construction Manager, The work shall be carried out strictly as per IS: 2751

7.6 Bar Supports (Spacer Blocks / Cover Blocks)

Bar supports used as spaced cover blocks shall be of plastic and of approved type, colour and manufacture.

7.7 Storage

Reinforcement steel shall be handled and stored in a manner that bending or distortion of the bars is avoided and contamination of steel is prevented.
All reinforcement shall be stored horizontally above ground level on platforms, skids or other approved supports, clear of any running or standing water. Contact with soil shall be avoided. Proper drainage and protection from the reinforcement shall be provided to minimise corrosion.
Bars of different types and diameters shall be stored separately. Reference shall also be made to MOST specification road and bridge works, clause 1600.

Welding electrodes shall be stored in moisture-controlled environment in accordance with the manufacturer's specifications.

7.8 Fabrication

Reinforcement steel shall be carefully and accurately bent or formed with machines to the dimensions and configurations on the drawings and bar bending schedules.
All reinforcement shall be bent cold using appropriate tools & machines. Bars may be preheated only on approval of the Construction Manager. Hot bars shall not be cooled by quenching and shall be in accordance with IRC: 21, IS: 2502.
It shall be ensured that the bars are not bent or straightened in any manner that will injure the material. Any bar incorrectly bent shall be used only if means for straightening and rebending be such as will not be effect the material adversely. Reinforcement shall not be bent or straightened without prior review by the Construction Manager. Reinforcement shall be bent when in position on the works without approval of the construction manager, whether or not it partially embedded in hardened concrete. Rebending or straightening of deformed bars shall in any case not be permitted for diameters more than 12 mm.
Reinforcement steel having a reduced section, visible inverse cracks in bends, or bars other wise damaged in anyway not be used.
Spiral reinforcement shall be accurately fabricated to the diameter and pitch shown on the drawings. One half (1 & 1.5) finishing turns shall be provided at top and bottom unless shown other wise.
Cut ends of galvanized rods shall be given a protective coat of approved zinc paint immediately after placing.

7.9 Lapping

As far as possible, bars of maximum length available shall be used.
The Contractor shall base laps shown on the drawings or other wise permitted by the Construction Manager on the use of maximum length.
The overlaps shall be staggered for different bars and lapped at points along the span where shear is not high.
Not more than one third of the bars or as specified in drawings shall be lapped at one section.
Reinforcement bars shall not be welded unless shown on the drawings or approval by the Construction Manager.

7.10 Placement

All reinforcement bars shall be placed accurately and aligned in the position indicated on the drawings.
The Contractor shall provide approved type of inserts for maintaining the bars in position ensuring specified spacing and correct cover of concrete to the reinforcement as called for in the drawings. Precast cement mortar blocks of required shape and size, M.S. chairs and space bars shall be used in order to ensure accurate placing of reinforcement. Precast concrete blocks shall put well in advance and shall be equal in quality &- class of concrete specified in the relevant work.
All intersections of the reinforcement shall securely tied with two strands of binding wire twisted tight to make the skeleton or network rigid so that the reinforcement is not displaced during placing of concreting.

Tack welding of crossing bars shall not be done, unless authorised or approved by the Construction Manager. Nothing extra will be paid for tack welding.
The Contractor shall take all reasonable precautions to ensure that when handling or erecting reinforcement no damage shall be done to finished concrete. Bars that are partially embedded in concrete shall not be field bent unless clearance has been obtained from the Construction Manager.
Walkways and borrow runs for placing and compacting concrete shall be independent of the reinforcement.
Loose binding wire and other extraneous metal shall be removed from inside the formwork before placing of concrete.
Without relieving the Contractor of the responsibilities- for the correctness therefor, the cement shall be inspected and approved by the Construction Manager in writing before any concrete is placed and the Contractor shall allow sufficient time for such inspection and subsequent remedial action to be carried out.
No part of the reinforcement shall be used for carrying electrical currents.

7.11 Cover To Reinforcement

Care shall be taken to maintain the correct cover to reinforcement as indicated in the drawings.
The maximum cover for reinforcement shall not be more than that shown on the drawings plus 5mm.
Exposed reinforcement intended for binding with future provisions shall be protected from corrosion as approved by the Construction Manager.

7.12 Cleaning

After placing, the reinforcement shall be maintained in clean condition until the concrete is placed. On no point shall the bars be oiled, painted, or allowed to be exposed to it.
Before concreting is commenced, the bars shall be thoroughly cleaned with dry gunny bags if they are coated lightly with rust or other impurities.

7.13 Welded Laps

Wherever specified in the drawings or instructed by the Construction Manager welded laps shall be provided at no additional cost.
The welding of bars shall be done in accordance with IS 816, IS 2751, IS 9417 and as specified on the drawings and instructions. Butt-welding between the ends of bars in line whereby the stress is transferred across the ends will not be permitted.
The following size of electrodes shall be used for welding with longitudinal beads:

Diameter (mm)	6	10	20	32	40
Electrode size (mm)	2	2.5	3.5	5	5

The Contractor shall employ only qualified and trained welder specifically trained and experienced in welding of reinforcement bars to execute the welding of laps to the complete satisfaction of the Construction Manager.

Before the welding of bars at site the Contractor shall make minimum 3 joints and get them tested in an approved lab. (Including X-ray testing of welds if required) at his cost. The Contractor shall be permitted to do the welding, after satisfactory test

certificate from the laboratory obtained. Whenever the welder change similar tests shall be carried out again.

The following precautions shall be taken before welding:

A) Bars shall be free from rust at the joints to be welded.
B) Bars shall be aligned & kept in proper axis in order to minimise the crookedness in bar after welding.
C) Slag produced in welding after alternate runs should be chipped & removed by brush.
D) Electrode should not be lighted touching the hot bar.
E) If the cold twisted deformed bars to be lapped has an untwisted end at the lapping point, the same portion shall be cut-off prior to welding upto a length of atleast 10 cms. from such ends.

7.14 Measurement For Payments

Reinforcement including authorised spacers bars & lappages shall be measured in lengths of different diameters, as actually used in the work nearest to a centimeter & their weight calculated on the basis of standard tables as per CPWD. Wastage of unauthorised overlaps shall not be paid for. Annealed steel wire required for binding of tack welding shall not be measured, its cost being included in the rate of reinforcement. The rate for reinforcement shall include the cost of labour & materials required for all operations described above except welding in lieu of overlaps which shall be paid for separately.

In general the measurement part shall be governed under IS: 1200 (Mode of measurement for building & civil engg.).

8. Drilling of Bore

8.1 Equipment and materials

All necessary machinery, equipment and materials to carry out the drilling, headwork construction, etc as specified are to be mobilised for the Works. Prior to mobilisation the Supervisor will verify the specifications and state of repair of all major items of plant and transport, and shall have the right to order the removal and/or replacement of any items which in his opinion is insufficient or in unsatisfactory condition. Acceptance by the Supervisor of the Contractor’s proposed plant and transport does not, however, relieve the Contractor of his obligations under this Contract, in case such plant and transport accepted by the Supervisor fails to successfully complete the required Works. All machinery, equipment and materials to carry out the said Works shall be handled, transported and stored in accordance with the manufacturers’ recommendations to minimise deterioration.

8.2 Borehole depth and diameter

The Contractor shall drill to the total appropriate depth depending on the geological formation and to a diameter as indicated in drawing

8.3 Casing and screens

Aquifer zones shall be completely or partly lined with uPVC screen as approved by the Supervisor. The uPVC casings and screens to be supplied by the Contractor shall have a minimum wall thickness of 6mm for 5" ND casing. The Supervisor however reserves the right to vary these specifications and reject materials if found substandard. The PVC

pipes shall be joined by threads and the joints shall be water tight. Screens shall be of slotted uPVC, complying with IS 12818: 1995. Sections of the screen shall be provided in maximum 3m length and joined water tight by either flush threaded connections or by an appropriate method recommended by the screen manufacturer or an equivalent standard, so that the resulting joint shall be strong and have the same structural integrity as the casings and screens. In particular cases the lower end of the screen should be completed with a sump of minimum 0.5m and maximum 2m length.

All boreholes shall be vertical, shall be drilled and cased straight, and all casings/screens shall be set round, plumb and true to line. If required by the Supervisor, the Contractor will make a verticality test during and after drilling by approved methods and at his own expense to demonstrate that the departure from the vertical does not exceed 3mm per 1,000mm between ground level and the bottom of the borehole

8.4 Gravel pack

Suitable gravel pack shall be supplied by the Contractor. Gravel pack should consist of washed, well-rounded particles of a uniform grading of between 2.5 and 4.0 mm, shall comprise 90% siliceous material and must contain no clay, shale, silt, fines, excessive amounts of calcareous material or crushed rock. In terms of grain size, 90% of the gravel pack material shall conform to the grading specified by the Supervisor prior to the commencement of the Works. Prior to delivery, the Contractor shall subject samples of the gravel to a grain size analysis at the Contractors expense and the results submitted Together with a sample of the gravel to the Supervisor for approval. The Supervisor shall approve the gravel before its installation.

CONSOLIDATED LIST OF IS STANDARDS APPLICABLE & MANUALS

S.No.	IS Code	Description of IS Codes
STRUCTURAL WORKS		
	CEMENT	
1	IS : 269.	Specification for 33 grade ordinary Portland cement.
2	IS: 650.	Specification for standard sand for testing of cement
3	IS : 4031	(Parts 1 to 13) Methods of physical test for hydraulic cement
4	IS : 4032	Method of chemical analysis of hydraulic cement.
5	IS : 6925	Methods of test for determination of water-soluble chlorides in concrete admixtures.
6	IS : 8112	Specification for 43 grade ordinary Portland cement
	CONCRETE	
7	IS : 383	Specifications for coarse & fine aggregates from natural source for concrete.
8	IS : 456	Code of practice for Plain & Reinforced concrete.
9	IS : 457	Code of practice for general construction of plain & reinforced concrete for dams & other massive structures.
10	IS : 516	Methods of test of strength of concrete
11	IS : 1199	Methods of sampling & analysis of concrete.
12	IS : 1200	Methods of measurement for building & civil Construction Manager.
13	IS : 1343	Code of practice for prestressed concrete.
14	IS : 2386	Parts I-VIII Methods of testing of aggregate for concrete.
15	IS : 2438	Specification for roller pan mixer
16	IS : 2514	Specification of concrete vibrating tables.
17	IS : 2571	Code of practice for laying in-situ cement concrete flooring
18	IS : 2645	Specification for integral cement water-proofing compound.
19	IS : 2722	Specification for portable swing batchers for concrete (double bucket type)
20	IS : 2770	Methods of testing bond in reinforced concrete part-I pull out test
21	IS : 3025	Methods of sampling & test (physical & chemical) for water used in industry.
22	IS : 3370	Code of practice for concrete structures for storage of liquids.
23	IS : 3696	Parts I & II Safety code for scaffold & ladders.
24	IS : 3935	Code of practice for composite construction.
25	IS : 4014	Parts I & II
26	IS : 4326	Code of practice for earthquake resistant construction of building.
27	IS : 7242	Specifications for concrete spreaders.
28	IS : 7251	Specification for concrete finishers
29	IS : 7861	Part I & II Code of practice for extreme weather concreting.
30	IS : 7969	Safety code for handling & storage of building materials
31	IS : 8989	Safety code for erection of concrete framed structures.

S.No.	IS Code	Description of IS Codes
32	IS : 8142	Method of test for determining setting time of concrete by penetration resistance.
33	IS : 9103	Specifications for admixtures for concrete.
34	IS : 9013	Method of making curing & determining compressive strengths of accelerated cured concrete specimen.
35	IS : 9284	Method of test for abrasion resistance of concrete.
36	IS : 10262	Recommended guidelines for concrete mix design.
	Building Construction Practices	
37	IS : 1838	Part I and II. Specifications for performed fillers for expansion joint in concrete pavements and structures.
38	IS : 1946	Code of practice for use of fixing devices in walls, ceilings, and floors of solid construction.
39	IS : 3414	Code of practice for design and installation of joints in buildings
40	IS : 6509	Code of practice for installation of joints in concrete pavements
41	IS : 11134	Code of practice for setting out of buildings
42	IS : 11433	Part I and II. Specifications for one part gun grade polysulphide based joint sealant
	Construction Plant And Machinery	
43	IS : 1791	Specification for batch type concrete mixers
44	IS : 2505	General requirements for concrete vibrators immersion type
45	IS : 2506	General requirements foe screed board vibrators
46	IS : 3366	Specification for pan vibrators
47	IS : 3558	Code of practice for use of immersion vibrators for consolidating concrete
48	IS : 4656	Specifications for form vibrators for concrete
49	IS : 4925	Specification for concrete batching and mixing plant
50	IS : 11993	Code of practice for use of screed board concrete vibrators
	INSTRUMENTS FOR TESTING CEMENT AND CONCRETE	
51	IS : 5513	Specification for vicat apparatus
52	IS : 5514	Specification for apparatus used in Le Chatelier test
53	IS : 5515	Specification for compaction factor apparatus
54	IS : 7320	Specification for concrete slump test apparatus
55	IS : 7325	Specification for apparatus for determining constituents of fresh concrete
56	IS : 10080	Specification for vibration machine
57	IS : 10086	Specification for moulds for use in tests of cement and concrete
58	IS : 10510	Specification for vee-bee consistometer

MANUALS

1. Schedule of specifications of C.P.W.D. revised upto 1996, (Govt. of India) with all latest amendments issued from time to time
2. National Building Code (Govt. of India)
3. Sewerage and Sewage Treatment revised upto 1993 (Ministry of Urban Development, New Delhi), (Govt. of India)
4. Manual of water supply & Treatment–1997, Central Public Health and Environmental Engineering Organisation.
5. Hand book of Water Supply and Drainage, Bureau of Indian Standards.

ABBREVIATIONS

Approx.	Approximate
Avg.	Average
B.O.Q.	Bill of Quantities
B.S.	British Standard
C.I.	Cast Iron
Cm.	Centimetre
Cu.m/m3	Cubic metre
C.P.W.D.	Central Public Works Department
Dia	Diameter
e.g.	For example
Fig.	Figure
G.I	Galvanised Iron
G.L	Ground level
I.S	Indian Standard
Kg.	Kilogram
Lpd	Litre per day
Lps or l/s	Litres per second
Lvl.	Level
Max.	Maximum
Min.	Minimum
Misc.	Miscellaneous
MLD	Million litres per day
PVC	Poly vinyl chloride
RCC	Reinforced Cement Concrete
Sq.m	Square metre
S.S	Suspended Solid
U.G	Underground
%	Percentage
^{O}C	Degree centigrade
@	At the rate of

Chapter 4: Drawings

(Enclosed Separately)

PART 3 – Conditions of Contract and Contract Forms

Section VIII - General Conditions of Contract

These General Conditions of Contract (GCC), read in conjunction with the Particular Conditions of Contract (PCC) and other documents listed therein, should be a complete document expressing fairly the rights and obligations of both parties.
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Table of Clauses

General Conditions of Contract

A. General

1. Definitions	1.1 Boldface type is used to identify defined terms. (a) The Accepted Contract Amount means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects. (b) The Adjudicator is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 23. (c) Employer means the name **as specified in the PCC**. (d) Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid. (e) Compensation Events are those defined in GCC Clause 42 hereunder. (f) The Completion Date is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 53.1. (g) The Contract is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Sub-Clause 2.3 below. (h) The Contractor is the party whose Bid to carry out the Works has been accepted by the Employer. (i) The Contractor's Bid is the completed bidding document submitted by the Contractor to the Employer. (j) The Contract Price is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract. (k) Days are calendar days; months are calendar months. (l) Dayworks are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant. (m) A Defect is any part of the Works not completed in accordance with the Contract. (n) The Defects Liability Certificate is the certificate issued

by Project Manager upon correction of defects by the Contractor.

(o) The Defects Liability Period is the period **named in the PCC** pursuant to Sub-Clause 34.1 and calculated from the Completion Date.

(p) Drawings means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract, include calculations and other information provided or approved by the Project Manager for the execution of the Contract.

(q) The Employer is the party who employs the Contractor to carry out the Works, **as specified in the PCC**.

(r) Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

(s) "In writing" or "written" means hand-written, type-written, printed or electronically made, and resulting in a permanent record;

(t) The Initial Contract Price is the Contract Price listed in the Employer's Letter of Acceptance.

(u) The Intended Completion Date is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is **specified in the PCC**. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.

(v) Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works.

(w) Plant is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.

(x) The Project Manager is the person **named in the PCC** (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract.

(y) PCC means Particular Conditions of Contract.

(z) The Site is the area **defined as such in the PCC**.

(aa) Site Investigation Reports are those that were included

		in the bidding document and are factual and interpretative reports about the surface and subsurface conditions at the Site.
	(bb)	Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.
	(cc)	The Start Date is **given in the PCC**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
	(dd)	A Subcontractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.
	(ee)	Temporary Works are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.
	(ff)	A Variation is an instruction given by the Project Manager which varies the Works.
	(gg)	The Works are what the Contract requires the Contractor to construct, install, and turn over to the Employer, **as defined in the PCC**.
2. Interpretation	2.1	In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.
	2.2	If sectional completion is **specified in the PCC**, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).
	2.3	The documents forming the Contract shall be interpreted in the following order of priority: (a) Agreement, (b) Letter of Acceptance, (c) Contractor's Bid, (d) Particular Conditions of Contract,

		(e) General Conditions of Contract, including Appendices, (f) Specifications, (g) Drawings, (h) Bill of Quantities, and (i) any other document **listed in the PCC** as forming part of the Contract.
3. Language and Law	3.1	The language of the Contract and the law governing the Contract are **stated in the PCC**.
	3.2	Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Employer's country when (a) as a matter of law or official regulations, the Employer's country prohibits commercial relations with that country.
4. Project Manager's Decisions	4.1	Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer.
5. Delegation	5.1	Otherwise **specified in the PCC,** the Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.
6. Communica-tions	6.1	Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered and receipt is obtained against the delivery of the notice.
7. Subcontracting	7.1	Sub-Contracting shall not be allowed under this contract..
8. Other Contractors	8.1	The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as **referred to in the PCC.** The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.

9. Personnel and Equipment	9.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid. 9.2 If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract. 9.3 If the Employer, Project Manager or Contractor determines, that any employee of the Contractor be determined to have engaged in Fraud and Corruption during the execution of the Works, then that employee shall be removed in accordance with Clause 9.2 above.
10. Employer's and Contractor's Risks	10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.
11. Employer's Risks	11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks: 11.2 The Employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works in India, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees) and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive,(b) a cause due solely to the design of the Works, other than the Contractor's design. 11.3 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer's risk except loss or damage due to (a) a Defect which existed on the Completion Date, (b) an event occurring before the Completion Date, which was not itself an Employer's risk, or (c) the activities of the Contractor on the Site after the

	Completion Date.
12. Contractor's Risks	12.1 From the Starting Date until the Defects Liability Certificate has been issued, All risks of loss of or damage of physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks referred to in clause 11.2, are the responsibility of the Contractor.
13. Insurance	13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles **stated in the PCC** for the following events which are due to the Contractor's risks: (a) loss of or damage to the Works, Plant, and Materials; (b) loss of or damage to Equipment; (c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and (d) personal injury or death. 13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred. 13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due. 13.4 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager. 13.5 Both parties shall comply with any conditions of the insurance policies.
14. Site Data	14.1 The Contractor shall be deemed to have examined any Site Data **referred to in the PCC**, supplemented by any information available to the Contractor.
15. Contractor to Construct the	15.1 The Contractor shall construct and install the Works in

Works	accordance with the Specifications and Drawings. 15.2 The Contractor shall be responsible for maintaining the safety of all activities on the site, including smooth flow of traffic at his own cost as per guidelines including any amendment(s) of the IRC/MORT&H/PWD/CPWD. 15.3 In respect of all labour directly or indirectly employed in the work for the performance of the Contractor's part of this contract, the Contractor shall at his own expense arrange for the safety provisions as per Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the Contractor fails to make arrangement and provide necessary facilities as aforesaid, the Employer shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the Contractor. The decision of the Engineer in this regard shall be final and no claim on account of this shall be entertained.
16. The Works to Be Completed by the Intended Completion Date	16.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.
17. Approval by the Project Manager	17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval. 17.2 The Contractor shall be responsible for design of Temporary Works. 17.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works. 17.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required. 17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.
18. Safety	18.1 The Contractor shall be responsible for the safety of all activities on the Site including personnel and equipment. The contractors shall follow all the applicable rules and regulations of the Employer's country pertaining to the safety of the

		personnel and material.
19. Discoveries	19.1	Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.
20. Possession of the Site	20.1	The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date **stated in the PCC,** the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.
21. Access to the Site	21.1	The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.
22. Instructions, Inspections and Audits	22.1	The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.
	22.2	The Contractor shall keep, and shall make all reasonable efforts to cause its personnel to keep, accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs.
	22.3	The Contractor shall permit and shall cause its personnel to permit, the Employer and/or persons appointed by the Employer to inspect the Site and/or the accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Employer if requested by the Employer. The Contractor's and its 'Personnel' attention is drawn to Sub-Clause 25.1 which provides, inter alia, that acts intended to materially impede the exercise of the Employer's inspection and audit rights provided for under Sub-Clause 22.2 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Employer's prevailing sanctions procedures).
23. Appointment of the Adjudicator	23.1	The Adjudicator shall be appointed jointly by the Employer and the Contractor, at the time of the Employer's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority **designated in the PCC**, to appoint the Adjudicator within 14 days of

	receipt of such request. 23.2 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority **designated in the PCC** at the request of either party, within 14 days of receipt of such request.
24. Procedure for Disputes	24.1 If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Project Manager's decision. 24.2 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute. 24.3 The Adjudicator shall be paid by the hour at the **rate specified in the PCC,** together with reimbursable expenses of the types **specified in the PCC**, and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision shall be final and binding. 24.4 The arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place **specified in the PCC.**
25. Fraud and Corruption	25.1 The Employer requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Appendix to the GCC. 25.2 The Employer requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

B. Time Control

26. Program	26.1	Within the time **stated in the PCC**, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump-sum contract, the activities in the Program shall be consistent with those in the Activity Schedule.
	26.2	An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.
	26.3	The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period **stated in the PCC.** If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount **stated in the PCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of a lump-sum contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.
	26.4	The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.
27. Extension of the Intended Completion Date	27.1	The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.
	27.2	The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

28. Acceleration	28.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor. 28.2 If the Contractor's priced proposals for an acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.
29. Delays Ordered by the Project Manager	29.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.
30. Management Meetings	30.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure. 30.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.
31. Early Warning	31.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible. 31.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.
C. Quality Control	
32. Identifying	32.1 The Project Manager shall check the Contractor's work and

Defects	notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.
33. Tests	33.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event. 33.2 The Contractor shall constitute quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Project Manager shall be entitled to audit any aspect of the system. 33.3 Details of all procedures and compliance documents shall be submitted to the Project Manager for information before each design and execution stage is commenced. When any document of a technical nature is issued to the Project Manager, evidence of the prior approval by the Contractor himself shall be apparent on the document itself. 33.4 For carrying out mandatory tests as prescribed in the specifications, the Contractor shall establish field laboratory at the location decided by Project Manager or Conduct the tests a repute institute in consultation with the Project Manager. If the field laboratory is established, the field laboratory will have minimum of equipment as required to conduct the tests. The contractor shall be solely responsible for: i) Carrying out the mandatory tests prescribed in the Specifications, and ii) For the correctness of the test results, whether preformed in his laboratory or elsewhere. 33.5 The Project Manager will be free to conduct surprise, random or in situ checks any time during the execution and after the completion of the work but not later than the Defect Liability Period, so as to have cross check in quality of works/projects and compliance to specifications and standards at all stages of the work. 33.6 Nothing in this clause shall reduce the overall responsibility of the Contractor regarding quality and he shall remain liable for

	any defect in the execution of the Project/Works at all stages.
34. Correction of Defects & Operation and maintenance	34.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is **defined in the PCC.** The Defects Liability Period shall be extended for as long as Defects remain to be corrected. 34.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice. 34.3 Operation and Maintenance as specified in the P.C.C.
35. Uncorrected Defects	35.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount.

D. Cost Control

36. Contract Price	36.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.
37. Changes in the Contract Price	37.1 The Engineer shall have power to make any variations, alterations omission, additions to or substitutions for the original specifications, drawings, designs and instructions that may appear to be necessary or advisable during the progress of the work, and the Contractor shall be bound to carry out the work in accordance with any instructions which may be given to him in writing, signed by the Engineer. Such alterations/ additions/substitutions shall not invalidate the contract and shall be carried out by the Contractor on the same conditions in all respect on which he agreed to do the main work. The time of completion of the work shall be extended in the proportion that he altered, additional or substituted works bears to the original contract work and the certificate of the Engineer shall be conclusive as to such proportion. 37.2 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change, duly considering:

	(a) Justification for rate adjustment as furnished by the Contractor. (b) Economies resulting from increase in quantities by way of reduced plant, equipment and overhead costs. (c) Entitlement of the Contractor to compensation events where such events are caused by any additional work. (d) The revised rates will be applicable to the quantity that exceeds 25% limit and not on the entire quantity. 37.3 The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Employer. 37.4 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.
38. Variations	38.1 All Variations shall be included in updated Programs produced by the Contractor. 38.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered. 38.3 If the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Sub-Clause 37.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work. 38.4 If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs. 38.5 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered

without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.

38.6 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

38.7 **Value Engineering**: The Contractor may prepare, at its own cost, a value engineering proposal at any time during the performance of the contract. The value engineering proposal shall, at a minimum, include the following;

(a) the proposed change(s), and a description of the difference to the existing contract requirements;

(b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including life cycle cost) the Employer may incur in implementing the value engineering proposal; and

(c) a description of any effect(s) of the change on performance/functionality.

The Employer may accept the value engineering proposal if the proposal demonstrates benefits that:

(a) accelerates the contract completion period; or

(b) reduces the Contract Price or the life cycle costs to the Employer; or

(c) improves the quality, efficiency, safety or sustainability of the Facilities; or

(d) yields any other benefits to the Employer,

without compromising the functionality of the Works.

If the value engineering proposal is approved by the Employer and results in:

(a) a reduction of the Contract Price; the amount to be paid to the Contractor shall be the **percentage specified in the PCC** of the reduction in the Contract Price; or

(b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in (a) to (d) above, the amount to be paid to the Contractor shall be the full increase in the Contract Price.

39. Cash Flow Forecasts	39.1 When the Program, is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.
40. Payment Certificates	40.1 The Contractor shall submit to the Project Manager monthly statements with all requisite supporting documents of the estimated value of the work executed less the cumulative amount certified previously. 40.2 The requisite supporting documents shall contain, Request For Inspection (RFIs), measurements and Quantities (jointly measure by the representative of the Contractor and the Employer) of items of work done since last bill, Copies of the quality control tests in specified format covering the work done since last bill, copies of the instructions recorded in the instruction book containing the instructions and compliance made thereof, covering the work done since last bill, applicable work done/as built drawings, details of approvals (as required) obtained. The contractor shall submit all the bills on the printed/computerised forms. 40.3 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor. 40.4 The value of work executed shall be determined by the Project Manager. 40.5 The value of work executed shall comprise the value of the quantities of work in the Bill of Quantities that have been completed.[1] 40.6 The value of work executed shall include the valuation of Variations and Compensation Events. 40.7 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
41. Payments	41.1 Payments shall be adjusted for deductions for advance payments and retention. The Employer shall pay the Contractor

1 In lump-sum contracts, replace this paragraph with the following: "The value of work executed shall comprise the value of completed activities in the Activity Schedule."

	the amounts certified by the Project Manager within 28 days of the date of each certificate. 41.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute. 41.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the proportions of currencies comprising the Contract Price. 41.4 Items of the Works for which no rate or price has been entered in shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.
42. Compensation Events	42.1 The following shall be Compensation Events: (a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to GCC Sub-Clause 20.1. (b) The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract. (c) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time. (d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects. (e) The Project Manager unreasonably does not approve a subcontract to be let. (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site. (g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.

	(h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor. (i) The advance payment is delayed. (j) The effects on the Contractor of any of the Employer's Risks. (k) The Project Manager unreasonably delays issuing a Certificate of Completion. 42.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be reasonably increased and/or the Intended Completion Date shall be reasonably extended. The Project Manager shall decide reasonableness of whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended. 42.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event. 42.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor's not having given admissible early warning or not having admissibly cooperated with the Project Manager.
43. Tax	43.1 The rates quoted by the Contractor shall be deemed to be inclusive of all the taxes, levies, duties etc. including their variations as notified by the concerned authority from time to time, and also of all the new taxes and levies that may be imposed that the Contractor will have to pay for the performance of this Contract. The Project Manager on behalf of the Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law. 43.2 The Contractor shall comply with the proper bye-laws and legal orders of the local body or public authority, authority under the jurisdiction of which the work is executed and pay all fees and

	charges for which he may be liable. Nothing extra shall be payable on this account.
44. Currencies	44.1 Where payments are made in currencies other than the currency of the Employer's country **specified in the PCC,** the exchange rates used for calculating the amounts to be paid shall be the exchange rates stated in the Contractor's Bid.
45. Price Adjustment	45.1 Prices shall be adjusted for fluctuations in the cost of inputs only if **provided for in the PCC.** If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type specified below applies to each Contract currency: $\mathbf{P_c = A_c + B_c \; Imc/Ioc}$ where: P_c is the adjustment factor for the portion of the Contract Price payable in a specific currency "c." A_c and B_c are coefficients **specified in the PCC,** representing the nonadjustable and adjustable portions, respectively, of the Contract Price payable in that specific currency "c;" and Imc is the index prevailing at the end of the month being invoiced and Ioc is the index prevailing 28 days before Bid opening for inputs payable; both in the specific currency "c." 45.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The applicable index value shall be deemed to take account of all changes in cost due to fluctuations in costs.
46. Retention	46.1 The Employer shall retain from each payment due to the Contractor the proportion **stated in the PCC** until Completion of the whole of the Works. 46.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 51.1, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money

	with an "on demand" Bank guarantee.
47. Liquidated Damages	47.1 The Contractor shall pay liquidated damages to the Employer at the rate per day **stated in the PCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount **defined in the PCC.** The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities. 47.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 41.1.
48. Bonus	48.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day **stated in the PCC** for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.
49. Advance Payment	49.1 The Employer shall make advance payment to the Contractor of the amounts **stated in the PCC** by the date **stated in the PCC,** against provision by the Contractor of an Unconditional irrevocable Bank Guarantee in a form and by Employer acceptable to the Employer in amounts and currencies equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest shall be charged at the rate 9% per annum on the advance payment. 49.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager. 49.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis, but not later than the completion of the

	seventy five percent (75%) of the initial project time period. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages. 49.4 ***Secured Advance:*** The contractor ,on signing an indenture in the form to be specified by the Project Manager, shall be entitled to be paid, during the execution of work, upto 75% of the estimated value of any materials, which, in the opinion of the Project Manager, are non-perishable, non-fragile, non-combustible and which have been procured and adequately stored against damage, but which have not been incorporated in the works at the time of making advance. This secured advance is subject to the following: a. The materials are in accordance with the specification for works; b. Such materials have been delivered to site, and are properly stored and protected against damage or deterioration to the satisfaction of the Project Manager. The contractor shall store the bulk material in measurable stacks; c. The contractor's records of the requirements, orders, receipt and use of materials are kept in a form approved by the Project Manager and such records shall be available for inspection by the Engineer; d. The contractor has submitted with his monthly statement the estimated value of the materials on site together with such documents as may be required by the Project Manager for the purpose of valuation of the materials and providing evidence of ownership and payment thereof; e. Ownership of such materials shall be deemed to vest in the Employer for which the Contractor has submitted an Indemnity Bond in an acceptable format; and 49.5 The quantities of materials are not excessive and shall be used within a reasonable time as determined by the Project Manager.
50. Securities	50.1 The Performance Security (including additional security for unbalanced bids) shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount **specified in the PCC,** by a bank acceptable

	to the Employer, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 60 days from the date of expiry of Defects Liability Period and additional security for unbalanced bids shall be valid until a date 28 days from the date of issue of the certificate of completion by the Project Manager/Employer.
51. Dayworks	51.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used only when the Project Manager has given written instructions in advance for additional work to be paid for in that way. 51.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within two days of the work being done. 51.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.
52. Cost of Repairs	52.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

53. Completion	53.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.
54. Taking Over	54.1 The Employer shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.
55. Final Account	55.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it

	has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issues a payment certificate.
56. Operating and Maintenance Manuals	56.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates **stated in the PCC.** 56.2 If the Contractor does not supply the Drawings and/or manuals by the dates **stated in the PCC** pursuant to GCC Sub-Clause 56.1**,** or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount **stated in the PCC** from payments due to the Contractor.
57. Termination	57.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract. 57.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following: a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager; b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 28 days; c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation; d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 84 days of the date of the Project Manager's certificate; e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager; f) the Contractor does not maintain a Security, which is required; g) the Contractor has delayed the completion of the Works by the number of days for which the

	maximum amount of liquidated damages can be paid, as **defined in the PCC**; or h) if the Contractor, in the judgment of the Employer has engaged in Fraud and Corruption, as defined in paragrpah 2.2 a of the Appendix A to the GCC, in competing for or in executing the Contract, then the Employer may, after giving fourteen (14) days written notice to the Contractor, terminate the Contract and expel him from the Site.
	57.3 Notwithstanding the above, the Employer may terminate the Contract for convenience.
	57.4 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.
	57.5 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC Sub-Clause 56.2 above, the Project Manager shall decide whether the breach is fundamental or not.
58. Payment upon Termination	58.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as **specified in the PCC.** Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer. 58.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.
59. Property	59.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the

	Contractor's default.
60. Release from Performance	60.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.
61. Suspension of Grant by GOI and/or State Government of Uttar Pradesh	61.1 In the event that the Government of India (GoI) and/or State Government of Uttar Pradesh suspends the grant to the Employer, from which part of the payments to the Contractor are being made: (a) The Employer is obligated to notify the Contractor of such suspension within 7 days of having received the GoI and/or State Government of Uttar Pradesh's suspension notice. (b) If the Contractor has not received sums due to it within the 28 days for payment provided for in Sub-Clause 40.1, the Contractor may immediately issue a 14-day termination notice.

Section IX - Particular Conditions of Contract

A. General	
GCC 1.1 (c)	The financing institution is: Government of India and State Government of Uttar Pradesh
GCC 1.1 (q)	The Employer is *CEO, Aligarh Smart City Limited*.
GCC 1.1 (u)	The In-tended Completion Date for the whole of the Works shall be Two (02) Months from the date of signing the agreement.
GCC 1.1 (x)	The Project Manager is *[as nominated by ASCL]*
GCC 1.1 (z)	The Site is located at Aligarh
GCC 1.1 (cc)	The Start Date shall be *the date of signing of the contract agreement.*
GCC 1.1 (gg)	The work consists of Design, Construction Of Rain Water Harvesting & Ground Water Recharge Including 5 Years Of Operations And Maintenance (Under Smart City Mission)
GCC 2.2	Sectional Completions are: *Not Applicable*
GCC 2.3(i)	The following documents also form part of the Contract: Construction Schedule.
GCC 3.1	The language of the contract is *English.* The law that applies to the Contract is the law of *India*
GCC 5.1	The Project manager *may* delegate any of his duties and responsibilities.
GCC 8.1	Schedule of other contractors: *None*, if obtained during the implementation period, the same shall be provided to the Contractor.
GCC 9.1	**Key Personnel** GCC 9.1 is replaced with the following: Key Personnel are the Contractor's personnel named in this GCC 9.1 of the Particular Conditions of Contract. The Contractor shall employ the Key Personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment

	approved by the Project Manager. The Project Manager shall approve any proposed replacement of Key Personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid. [insert the name/s of each Key Personnel agreed by the Employer prior to Contract signature.]
GCC 9.2	**Code of Conduct (ESHS)** The following is inserted at the end of GCC 9.2: "The reasons to remove a person include behavior which breaches the Code of Conduct (EHS) (e.g. spreading communicable diseases, sexual harassment, gender based violence, illicit activity or crime)."
GCC 13.1	The minimum insurance amounts and deductibles shall be: (a) for loss or damage to the Works, Plant and Materials: *Equal to the Contract Amount and 0.4% of the Contract Amount respectively* (b) For loss or damage to Equipment: *Equal to the 10% of Contract Amount and 0.4% of the Contract Amount respectively*. (c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract *Equal to the 5% of Contract Amount and 0.4% of the Contract Amount respectively* (d) for personal injury or death: (i) of the Contractor's employees: *INR 25 Lakh* (ii) of other people: *In accordance with the statutory requirements applicable to India.*
GCC 14.1	Site Data are: None
GCC 16.1 (add new 16.2)	**ESHS Management Strategies and Implementation Plans** The following is inserted as a new sub-clause 16.2: "**16.2** The Contractor shall not commence any Works, including mobilization and/or pre-construction activities (e.g. limited clearance for haul roads, site accesses and work site establishment, geotechnical investigations or investigations to select ancillary features such as quarries and borrow pits), unless the

	Project Manager is satisfied that appropriate measures are in place to address environmental, social, health and safety risks and impacts. At a minimum, the Contractor shall apply the Management Strategies and Implementation Plans and Code of Conduct, submitted as part of the Bid and agreed as part of the Contract. The Contractor shall submit, on a continuing basis, for the Project Manager's prior approval, such supplementary Management Strategies and Implementation Plans as are necessary to manage the EHS risks and impacts of ongoing works. These Management Strategies and Implementation Plans collectively comprise the Contractor's Environmental and Management Plan (C-EMP). The C-EMP shall be approved prior to the commencement of construction activities (e.g. excavation, earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture). The approved C-EMP shall be reviewed, periodically (but not less than every three (3) months), and updated in a timely manner, as required, by the Contractor to ensure that it contains measures appropriate to the Works activities to be undertaken. The updated C-EMP shall be subject to prior approval by the Project Manager."
GCC 20.1	The Site Possession Date(s) shall be: *the date of signing of the Contract.*
GCC 23.1 & GCC 23.2	Appointing Authority for the Adjudicator: ***Will be finalised later as agreed mutually.***
GCC 24.3	Hourly rate and types of reimbursable expenses to be paid to the Adjudicator: shall be intimated later.
GCC 24.4	The place of arbitration shall be: ***Aligarh, India*** *DISPUTES RESOLUTION MECHANISM* (i) If any dispute or differences of any kind what-so-ever arise between the Employer, its authorized representatives and the contractor in connection with or arising out of this contract or the execution of work, these shall be resolved as under. (ii) Whether before its commencement or during the progress of Project/Work or after the termination, abandonment or breach of the contract, the dispute shall,

		in the first instance, be referred for settlement to the Project Manager of the work and he shall, within a period of sixty (60) days after being requested in writing by the contractor to do so, convey his decision to the contractor. Such decision in respect of every matter so referred shall, subject to arbitration as hereinafter provided, be final and binding upon the Contractor. In case the work is already in process, the contractor shall proceed with the execution of the work on receipt of the decision of the Project Manager as aforesaid with all due diligence, whether any of the parties requires arbitration as hereinafter provided or not.
	(iii)	If the Project Manager has conveyed his decision to the contractor and no claim for arbitration has been filed by the contractor within a period of sixty (60) days from the receipt of the latter communicating the decision, the said decision shall be final and binding upon the contractor and will not be a subject matter of arbitration at all.
	(iv)	If the Project Manager fails to convey his decision within a period of sixty days from the date on which the said request was made by the contractor, he may refer the dispute for arbitration as hereinafter provided.
	(v)	All disputes or differences in respect of which the decision is not final and conclusive shall, at the request of either party made in communication sent through registered A.D. post, be referred for arbitration.
	(vi)	The provisions of the Arbitration and Reconciliation Act, 1996 or any other statuary there under or modification thereof and for the time being in force shall apply to the arbitration proceedings under this clause.
	(vii)	The Employer shall have the authority to change the arbitrator on an application by either the contractor or the Engineer requesting change of arbitrator giving reasons thereof, either before the start of the arbitration proceedings or during the course of such proceedings. The arbitration proceedings would stand suspended as soon as an application for change of Arbitrator is filed before the Employer and a notice thereof is given by the applicant to the Arbitrator. The Employer after hearing both the parties may pass a speaking order rejecting the application or accepting to change the arbitrator or simultaneously, appointing a technical officer as Arbitrator under the contract. The new arbitrator so

	appointed may enter upon the reference afresh or he may continue the hearings from the point these were suspended before the previous arbitrator. (viii) The reference to the arbitrator shall be made by the claimant party within one hundred twenty (120) days from the date of dispute of claim arises during the execution of work. If the claim pertains to rates or recoveries introduced in the final bill, the reference to the arbitrator shall be made within six calendar months from the date of payment of the final bill to the contractor or from the date a registered notice is sent to the contractor to the effect that his final bill is ready by the Engineer (whose decision in this respect shall be final and binding) whichever is earlier. (ix) It shall be an essential term of this contract that in order to avoid frivolous claims, the party invoking arbitration shall specify the disputes based upon facts and calculations stating the amount claimed under each claim and shall furnish a "deposit-at-call" for ten percent (10%) of the amount claimed, on a scheduled bank in the name of the Arbitrator, by his official designation who shall keep the amount in deposit till the announcement of the award. In the event of an award in favour of the claimant, the deposit shall be refunded to him in proportion to the amount awarded with respect to the amount claimed and the balance, if any, shall be forfeited and paid to the other party. (x) The Arbitrator/Arbitral Tribunal shall give a reasoned award for each claim/counter claim (xi) The independent claims of the party other than one seeking arbitration as also the counter claims of any party shall be entertained by the arbitrator. (xii) The work under the contract shall continue during the arbitration proceedings. (xiii) The stamp fee due on the award shall be payable by the party as desired by the Arbitrator/Arbitral Tribunal and in the event of such party's default , the stamp fee shall recoverable from another sum due to such party under this or any other contract. (xiv) Neither party shall be entitled to bring a claim for arbitration, if it is not filed as per the time period already

	specified or within six (06) months of the following:- a) of the date of completion of the work as certified by the Project manager or b) of the date of abandonment of the work or breach of contract under any of its clauses, or c) of its non-commencement or non-resumption of work within 10 days of written notice for commencement or resumption as applicable, or d) of the cancellation, termination or withdrawal of the work from the contractor in whole or in part and/or revision for closure of the contract, or e) Of receiving an intimation from the Project Manager that the final payment due or recover from the contractor had been determined, for the purpose of payment/adjustment whichever is the latest. If the matter is not referred to arbitration within the period prescribed above, all the rights and claims of either party under the contract shall be deemed to have been fortified and absolutely barred by the time for arbitration and even for civil litigation. (xv) No question relating to this contract shall be brought before any civil court without first invoking and completing the arbitration proceedings, if he issue is covered by the scope of arbitration under the contract. The pending arbitration proceedings shall not disentitle the Project Manager to terminate the contract and to make alternate arrangement for completion of the works. (xvi) The Arbitrator/Arbitral Tribunal shall be deemed to have entered on the reference on the day, notice is issued to the parties fixing the first date of hearing. The arbitrator/ Arbitral Tribunal may, from time to time, with the consent of the parties enlarge the initial time for making and publishing the award. However, Arbitrator/Arbitral Tribunal shall make all out efforts to decide each claim within a period of 6 months from the date of initiation. **(xvii)** The expiry to the contractual time limit, whether originally fixed or extended, shall not invalidate the provisions of this clause.

B. Time Control	
GCC 26.1	The Contractor shall submit for approval a Program for the Works within *15*days from the date of the Letter of Acceptance.
GCC 26.2	**EHS Reporting** Inserted at the end of GCC 26.2: "In addition to the progress report, the Contractor shall also provide a report on the Environmental, Health and Safety (EHS) metrics. In addition to Appendix A reports, the Contractor shall also provide immediate notification to the Project Manager of incidents in the following categories. Full details of such incidents shall be provided to the Project Manager within the timeframe agreed with the Project Manager. (a) confirmed or likely violation of any law or international agreement; (b) any fatality or serious (lost time) injury; (c) significant adverse effects or damage to private property (e.g. vehicle accident, damage from fly rock, working beyond the boundary) (d) major pollution of drinking water aquifer or damage or destruction of rare or endangered habitat (including protected areas) or species; or (e) any allegation of sexual harassment or sexual misbehaviour, child abuse, defilement, or other violations involving children.
GCC 26.3	The period between Program updates is *30* days. The amount to be withheld for late submission of an updated Program is Indian Rupees Two lakh Fifty Thousand only (INR*2,50,000/-)*
C. Quality Control	
GCC 34.1	The Defects Liability Period is: *1 year from the date of completion of work in all respect and issuance of the Completion Certificate*. Add the following clause after clause 34.3 **Operation and maintenance:** 34.4 The operation and maintenance period is 5 year from the

	date of completion of Works as per schedule mentioned in section VII- Works Requirement.
D. Cost Control	
GCC 38.2	At the end of 38.2 add after the first sentence: "The Contractor shall also provide information of any EHS risks and impacts of the Variation."
GCC 38.7	If the value engineering proposal is approved by the Employer the amount to be paid to the Contractor shall be 5% (*five percent)* of the reduction in the Contract Price. The amount shall be paid after the completion of the project taking the final contract amount in consideration.
GCC 38.7	In the first paragraph insert new sub-paragraph (d): "(d) a description of the proposed work to be performed, a programme for its execution and sufficient EHS information to enable an evaluation of EHS risks and impacts;"
GCC 40	Add new GCC 40.8: "40.8 The payment for the operation and maintenance shall be made quarterly on pro-rata basis. The Contractor shall submit the quarterly bill supported with requisite documents to the Project Manager mentioning the details of the operation and maintenance done during the quarter. The payment will be made by the Project Manager clause 41 of the G.C.C."
GCC 44.1	The currency of the Employer's country is: *Indian Rupees.*
GCC 45.1	The Contract *is not* subject to price adjustment in accordance with GCC Clause 45.
GCC 46.1	The proportion of payments retained is: *5% (five Percent)]*
GCC 47.1	The liquidated damages for the whole of the Works are *0.10 %* (zero point one percent) per day. The maximum amount of liquidated damages for the whole of the Works is *10% (ten percent)* of the final Contract Price. The Contractor shall ensure due diligence to achieve progress of work not less than that indicated in the following milestones: a) Lapse of 25% of the Contractual time- 10% b) Lapse of 50% of the Contractual time- 30%

	c) Lapse of 75% of the Contractual time- 65% *d)* Lapse of 100% of the Contractual time-100% In addition to the above, the works would be carried out and the ASCL would back charge the bidder along with a markup of 20% on the actual cost incurred to carry out the said work.
GCC 47	Add New GCC 47.3 "clause 47.3- In case of continued default or shortfall in progress, the Project Manager may go on further enhancing the levy of liquidated damages, each time limited to 1% of the amount of contract per week of further default subject to maximum limit of five (5) percent of the Contract value.
GCC 48.1	Not Applicable
GCC 49.1	The Advance Payments shall be: *Ten percent (10%).*
GCC 50.1	The Performance Security amount is 5% of the Contract Amount.
GCC 51	Not Applicable
E. Finishing the Contract	
GCC 56.1	The date by which operating and maintenance manuals are required is *30 days before the completion of the Contract period.* The date by which "as built" drawings are required is *15 days after the completion of the Contract period or with the Final Bill whichever is earlier.*
GCC 56.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required in GCC 58.1 is *Indian Rupees 20.00 (twenty) Lakhs.*
GCC 57.2 (g)	The maximum number of days is100 days.
GCC 58.1	The percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, is *20% (twenty percent).*

Section X - Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

Table of Forms

NOTIFICATION OF AWARD

Letter of Acceptance

[on letterhead paper of the Employer*]*

. . . . *[date]*. . . . . . .

To: . . . . *[name and address of the Contractor]* . . . .

Subject: . . . . *[Notification of Award Contract No]*. . . . .

This is to notify you that your Bid dated . . . . ***[insert date] . . . .*** for execution of the . . . . ***.[insert name of the contract and identification number, as given in the PCC]*** . . . . for the Accepted Contract Amount of . . . . ***.[insert amount in numbers and words and name of currency]***, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by Aligarh Smart City Limited(LSCL)..

You are requested to furnish the Performance Security within 28 days in accordance with the Conditions of Contract, using for that purpose the of the Performance Security Form included in Section X - Contract Forms, of the bidding document.

[Choose one of the following statements:]

We accept that ___________________________***[insert the name of Adjudicator proposed by the Bidder]*** be appointed as the Adjudicator.

[or]

We do not accept that ________________________***[insert the name of the Adjudicator proposed by the Bidder]*** be appointed as the Adjudicator, and by sending a copy of this Letter of Acceptance to ____***[insert name of the Appointing Authority]***, the Appointing Authority, we are hereby requesting such Authority to appoint the Adjudicator in accordance with ITB 50.1 and GCC 23.1.

Authorized Signature: ....

Name and Title of Signatory: ....

Name of Agency: ....

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made the . . . . . .day of . . . ., ..., between . . . . Aligarh Smart City Limited (hereinafter "the Employer"), of the one part, and . . . . . ***[name of the Contractor]***. . . . .(hereinafter "the Contractor"), of the other part:

WHEREAS the Employer desires that the Works known as . . . . . ***[name of the Contract]***. . . . .should be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.

(a) the Letter of Acceptance

(b) the Letter of Bid Technical and Financial Parts

(c) the addenda Nos ________(if any)

(d) the Particular Conditions of Contract

(e) the General Conditions of Contract, including Appendices;

(f) the Specification

(g) the Drawings

(h) Bill of Quantities; and

(i) any other document **listed in the PCC** as forming part of the Contract;

3. In consideration of the payments to be made by the Employer to the Contractor as specified in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of . . . . . [India]. . . . .on the day, month and year specified above.

Signed by:	Signed by: ....
for and on behalf of the Employer	for and on behalf the Contractor
in the presence of:	in the presence of: ....
Witness, Name, Signature, Address, Date	Witness, Name, Signature, Address, Date

Performance Security - Bank Guarantee

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[insert name and Address of* Employer*]*

Date: _ *[Insert date of issue]*

PERFORMANCE GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _ *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of _ *[insert name of contract and brief description of* Works*]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (______) *[insert amount in words]*,[1] such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the …. Day of ……, 2… [2], and any demand for payment under it must be received by us at this office indicated above on or before that date.

____

[signature(s)]

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[1] *The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency(cies) of the Contract or a freely convertible currency acceptable to the Beneficiary.*

[2] *Insert the date twenty-eight days after the expected completion date as described in GCC Clause 53.1. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."*

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

Advance Payment Security

Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Insert name and Address of* Employer*]*

Date: *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *[insert name of contract and brief description of* Works*]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum *[insert amount in figures]* () *[insert amount in words]* is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]*| (____________) *[insert amount in words]*[1] upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

(a) has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or

(b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number *[insert number]* at *[insert name and address of Applicant's bank]*.

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1 *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Employer.*

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the *[insert day]* day of *[insert month]*, 2 *[insert year]*,[2] whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

____

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

2 *Insert the expected expiration date of the Time for Completion. The Employer should note that in the event of an extension of the time for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."*

Indenture For Secured Advances

(For use in cases in which the contract is for finished work and the Contractor has entered into an agreement for the execution of a certain specified quantity of work in a given time)

This indenture made the day of______ , 20 ____BETWEEN_____ (hereinafter called the Contractor which expression shall where the context so admits or implies be deemed to include his executors, administrators and assigns) or the one part and Employer of the other part.

Whereas by an agreement dated__________ (hereinafter called the said agreement) the Contractor has agreed.

AND WHEREAS the Contractor has applied to the Employer that he may be allowed advanced on the security of materials absolutely belonging to him and brought by him to the site of the works the subject of the said agreement for use in the construction of such of the works as he has undertaken to executive at rates fixed for the finished work (inclusive of the cost of materials and labour and other charges).

AND WHEREAS the Employer has agreed to advance to the Contractor the sum of Rupees on the security of materials the quantities and other particulars of which are detailed in Accounts of Secured Advances attached to the Running Account bill for the said works signed by the Contractor on and the Employer has reserved to himself the option of making any further advance or advances on the security of other materials brought by the Contractor to the site of the said work.

NOW THIS INDENTURE WITNESSETH that in pursuance of the said agreement and in consideration of the sum of Rupees ___________________on or before the execution of these presents paid to the Contractor by the Employer (the receipt where of the Contractor doth hereby acknowledge) and of such further advances (if any) as may be made to him as a for said the Contractor doth hereby covenant and agree with the President and declare as follows:

1. That the said sum of Rupees so advanced by the Employer to the Contractor as aforesaid and all or any further sum of sums advanced as aforesaid shall be employed by the Contractor in or towards expending the execution of the said works and for no other purpose whatsoever.
2. That the materials details in the said Account of Secured Advances which have been offered to and accepted by the Employer as security are absolutely the Contractor's own propriety and free from encumbrances of any kind and the Contractor will not make any application for or receive a further advance on the security of materials which are not absolutely his own property and free from encumbrances of any kind and the Contractor indemnified the Employer against all claims to any materials in respect of which an advances has be made to him as aforesaid.
3. That the materials detailed in the said account of Secured Advances and all other materials on the security of which any further advance or advances may hereafter be

made as aforesaid (hereafter called the said materials) shall be used by the Contractor solely in the execution of the said work in accordance with the directions of the project Manager.

4. That the Contractor shall make at his own cost all necessary and adequate arrangements for the proper watch, safe custody and protection against all risks of the said materials and that until used in construction as aforesaid the said materials shall remain at the site of the said works in the Contractor's custody and on his own responsibility and shall at all times be open to inspection by the Project Manager or any officer authorized by him.

   In the event of the said materials or any part thereof being stolen, destroyed or damaged or becoming deteriorated in a greater degree than is due to reasonable use and wear thereof the Contractor will forthwith replace the same with other materials of like quality or repair and make good the same required by the Project Manager.

5. That the said materials shall not be any account be removed from the site of the said works except with the written permission of the Project Manager or an officer authorized by him on that behalf.

6. That the advances shall be repayable in full when or before the Contractor receives payment from the Employer of the price payable to him for the said works under the terms and provisions of the said agreement. Provided that if any intermediate payments are made to the Contractor on account of work done than on the occasion of each such payment the Employer will be a liberty to make a recovery from the Contractor's bill for such payment by deducting there from the value of the said materials than actually used in the construction and in respect of which recovery has not been made previously, the value for this purpose being determined in respect of each description of materials at the rates at which the amounts of the advances made under these presents were calculated.

7. That if the Contractor shall at any time make any default in the performance or observance in any respect of any of the terms and provisions of the said agreement or of these presents the total amount of the advance or advances that may still be owing of the Employer shall immediately on the happening of such default be repayable by the Contractor to be the Employer together with interest thereon at twelve per cent (12%) per annum from the date or respective dates of such advance or advances to the date of repayment and with all costs, charges, damages and expenses incurred by the Employer in or for the recovery thereof or the enforcement of this security or otherwise by reason of the default of the Contractor and the Contractor hereby covenants and agrees with the Employer to reply and pay the same respectively to him accordingly.

8. That the Contractor hereby charges all the said materials with the repayment to the Employer of the said sum of Rupees and any further sum of sums advanced as aforesaid and all costs, charges, damages and expenses payable under these presents PROVIDED ALWAYS and it is hereby agreed and declared that notwithstanding anything in the said agreement and without prejudice to the power contained therein if and whenever the covenant for payment and repayment here-in- before contained shall become enforceable and the money owing shall not be paid in accordance there with the Employer may at any time thereafter adopt all or any of the following courses as he may deem best:

a. Seize and utilize the said materials or any part thereof in the completion of the said works on behalf of the Contractor in accordance with the provisions in that behalf contained in the said agreement debiting the Contractor with the actual cost of effecting such completion and the amount due to the Contractor with the value of work done as if he had carried it out in accordance with the said agreement and at the rates thereby provided. If the balance is against the Contractor, he is to pay same to the Employer on demand.

b. Remove and sell by public auction the seized materials or any part thereof and out of the moneys arising from the sale retain all the sums aforesaid repayable or payable to the Employer under these presents and pay over the surplus (if any) to the Contractor.

c. Deduct all or any part of the moneys owing out of the security deposit or any sum due to the Contractor under the said agreement.

9. That except in the event of such default on the part of the Contractor as aforesaid interest on the said advance shall not be payable.

10. That in the event of any conflict between the provisions of these presents and the said agreement the provisions of these presents shall prevail and in the event of any dispute or difference arising over the construction or effect of these presents the settlement of which has not been here-in-before expressly provided for the same shall be referred to the Employer whose decision shall be final and the provision of the Indian Arbitration Act for the time being in force shall apply to any such reference.